THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

VOL. IX NO. 2. CLEVELAND, O., JANUARY 13, 1887. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND.

Meteorological summary for the week ending January 12:

Mean barometer	30.046
Mean temperature	15.6
Mean humidity	97.4
Total precipitation	.33
Prevailing direction of wind	S
Total wind move	1614
Av. clouds	8
Av. state of weather	Cloudy
Max. temperature, highest	32.5
Min temperature, lowest	5.9

WILLIAM LINE, Sgt. Signal Corps, U. S. A.

The new steel steamer for Messrs. H. H. Brown & Co., has been named Charles J. Sheffield.

Messrs. Grover & Son have begun work in the sail loft for the new steamers they will fit out in the spring.

Captain Paul Surratt, last season on the S. E. Sheldon, will command on the steamer Raleigh the coming season.

Captain Thomas Wilson has sold the propeller Hiawatha and consort to Buffalo parties. Consideration not yet made public.

Captain F. LaSalle, last season in the Tacoma, will take command of George Berriman's new boat at the opening of navigation.

Captain Stone, last season in the City of Cleveland, will command the large steamer building at Radcliffe's yard for Bradley, Grover and others.

The Mutual Transportation Company has decided to push along the construction of the four steamers intended for the line as speedily as possible.

Captain William Somerville, last season master of the Kingfisher, has purchased a quarter interest in the schooner Reindeer. Captain Somerville will sail her.

Messrs. Palmer & Johnson and others have purchased the propeller Rube Richards and consort May Richards of Mr. Richards of Manitowoc, Wis. Consideration said to be $56,000.

The steamer Raleigh is having her boilers taken out and at the opening of navigation she will be towed to Buffalo where she will receive new steel boilers, which have been built by the Eagle Boiler Works.

Captain Andrews, of the schooner Nellie Reddington, has gone to Florida to spend the winter. Mr. J. E. Upson, of the firm of Upson & Walton, is also spending the winter in the south.

Captain James Corrigan has purchased the interest of John Corrigan and Captain Willian Mack in the steamer Raleigh on the basis of $50,000, and schooners Niagara $34,000, and James Couch $32000.

The next annual meeting of the drydock association of the lakes will be held at the Sherman House, Chicago, on Wednesday, January 19, at 10 o'clock. Mr. George Presley, of this city, is president of the association, and Mr. H. J. Mills, of Buffalo, secretary.

Rev. Dr. Robinson delivered a special sermon to shipbuilders last Sunday at the Franklin avenue M. E. church, the topic being "Noah and His Ship." At the close of the service a collection was taken up for the families of Cleveland sailors who perished during last season.

A contract has been entered into by John Corrigan, Captain Mack and X. C. Scott, with Messrs. Murphy & Miller, for the construction of a steamship, the dimensions of which are to be 305 feet over all, 287 feet keel, 40 feet beam, and 24 feet depth of hold. She will have steel arches inside and out, and is to be completed about July 1.

Captain Inman, late of the steamer Hiawatha, who resides at Port Huron, spent a few days in this city last week. Seven tugs and one fire boat will form the Inman line next season. Captain B. B. Inman will manage the boats and they will all be stationed at Duluth. The line includes the tugs Record, J. L. Williams, John Martin, J. H. Upham, Eliza Williams, Cora B., F. L. Danforth and the fire boat David Sutton.

Captain Alex. McDougall of Duluth was in the city on Saturday on the way east.

We have not yet been able to find the owner or shipper who has made an ore charter.

The Cleveland Shipbuilding Company is compounding the machinery of the steam barge Ohio.

Secretary Allen, of the Globe Iron Works Company, has a finely executed painting of the new steel steamer Cambria, by Kirby.

On Monday local inspectors DeWolfe and McGrath inspected the tug Paddy Murphy, their first vessel of the season.

Special engineer Chas. Hunt of Toledo has had his license revoked by the Cleveland local inspectors for changing the dates and the number. No one could find out when the second had been issued.

Record has been made of the sale of the barge Andrew Walton, one-eighth, H. V. Wilson to N. D. Fisher. Consideration $400. Also one-sixth of the propeller Tuttle, Alexander Gilchrist of Vermillion, to J. W. Moore. Consideration $5,250. Also one-fourth of sloop Transport, George W. Wright to Maria A. Wright. Consideration $400.

On another page will be found a neat advertisement of the Forest City cigar store. The plate represents a miniature first page of the MARINE RECORD. A copy from the plate is placed on the inside of the cover of each cigar box and an engraving of the tug Record (named in honor of this paper), is stamped on the outside of the cover. The cigar mentioned in the advertisment is Liget's marine cigar and should be well patronized by marine men.

The appointments of masters for the Cleveland Transportation Co.'s vessels have been made with the exception of the Kelley and Hanna. Cambria, the new steel steamer, Captain William Cummings; Sparta, W. C. Gooodsell; Havana, J. V. Hall; Vienna, Ed Mooney; O. Townsend, P. Dowdell; schooners Sumatra, W. E. Russell; Helena, W. B. Armstrong; Verona, F. Hergenrother; Genoa, J. W. Nicholson.

A circular from the Chase fog whistle company has reached this office which contains many flattering testimonials from vessel masters and engineers regarding the merits and accuracy of the machine. It has been perfected so as to meet every requirement of the United States marine laws as regards the blowing of fog whistle signals. The machine is so constructed and applied that it can be easily regulated for steamers towing or running alone and can be disconnected so quickly as not to in the least interfere with working the whistle from the pilot house.

The annual meeting of the executive board of the interlake yacthing association was held in the rooms of the Cleveland yachting association in the city hall Monday afternoon. Commodore George W. Gardner was chairman and the different associations on the lakes were represented. The Michigan yacht club of Detroit was represented by F. C. Whitney, Ohio yacht club of Toledo by Commodore Robert Rhodes, Toledo yacht club of Toledo by Commodore Percy Rice, Put-in-Bay yacht club by Dr. C. C. Arms, Cleveland yachting association by Commodore Charles Kelly. J. S. Williams, secretary of the Interlake yachting association, was represented by George Downie. Captain John Prindiville of Chicago and owner of the sloop yacht Wasp, attended the meeting.

KINGSTON.

A magnificent new side wheel steamboat is being built at Pembroke for the Upper Ottawa towing company.

The St. Lawrence is now solidly frozen over and the crossing on the ice between Cape Vincent and Kingston is good. The steamer Pierrepont, which has been running one trip a day on the ferry between these points, was stopped by ice last week. Passengers and mails are now taken across on the stage, which will run daily until the breaking up of the ice in the spring.

CHICAGO.

Special to the Marine Record.

Captain W. M. Eagan, having sent to the Hon. S. M. Cullom, United States Senator for Illinois, at Washington, a numerously signed remonstrance against the passage of a bill by the senate to construct a second bridge across the Sault ste Marie river, he has received an acknowledgement to his letter stating that the Hon. Senator would present it to the senate, and have it referred to the committee on commerce.

Captain John Prindiville has gone east to see after his vessel agency and insurance business.

Captain D. H. Stalker, of the schooner Marion Page, was in this city from Little Rapids, Wis., on the 6th inst. He was on his way to Detroit where the admiralty law case of the owners of the barge Saginaw vs. the owners of the Marion Page is to be heard on the 18th inst. The amount claimed is $8.000, the Saginaw having sunk on Lake Huron in September last, by colliding with the Marion Page. C. Kremer, marine lawyer, Chicago, will defend the action.

Captain Kelley arrived here from Buffalo Monday to load the barge Stephenson.

The convention of the drydock association of the lakes will be held at the Sherman House, Chicago, on the 19th inst.

Captain Alex Leith, of the schooner Lizzie A. Law, has invented a steering indicator, which will indicate the position of a tug to the man at the wheel on board of a vessel in tow. It would be of great use on dark nights or in foggy weather, and would prevent the breaking up of tows, and collisions. It will be placed on top of the cabin, immediately in front of the man at the wheel, and be worked by means of two small ropes or wires, leading forward to the tow line, a short distance outside of the bow. A model of a tug with a vessel in tow with the indicator in actual use, is on exhibition at the office of Messrs. Beckwith & Fleming, vessel agents. Many captains have seen it and consider it a very practical and useful invention. The underwriters see great merit in it and will undoudtedly endeavor to have it adopted. A patent has been applied for.

The annual meeting of the stockholders of the Vessel Owners' towing company of Chicago was held Tuesday morning, the 11th inst., at the office of the company, 240 South Water street. The annual reports of the season's business was read by Secretary Geo. D. Kirkham, showing the gross earnings of their eleven boats to be $141,005 outfit and running expenses $83,444. Deduction account on same, $54,226. The company was run in full blast last season, running boats as far down as Milwaukee to secure their work and under the pressing circumstances did remarkably well. The following board of directors were elected for the ensuing year: Jas. L. Higgie, A. A. Carpenter, A. G. Van Schaick, Jno. H. Witbeck, Geo. D. Kirkham, Thos. Hood, Wm. Johnson. A meeting of the new board will be held Friday morning, the 14th inst., for the election of officers.

Captain J. S. Dunham has purchased the tug W. L. Ewing, from the Chicago sand and gravel company.

Captain W. H. Gatfield arrived here from Amherstburg, Ont., on Tuesday. He will take a journey with Captain F. D. Root, west and south on a hunting expedition until the opening of navigation.

Captain P. Myers, of the schooner Cheney Ames, had his house and furniture badly damaged by fire on Wednesday, the 5th inst. His wife was severely burned about her head and hands. Damage to house estimated at $800 and to furniture $1,200, which we are pleased to note were fully insured.

The Chicago drydock company are about to put a new upper deck on the steambarge Rhoda Emily. The steambarge Ida M. Torrent will go into one of their docks for new steel arches, new pilot house forward, new keelsons and a general overhauling.

The schooner Mary D. Ayer and Mediator and the propeller Cormorant are receiving some repairs prior to their being loaded.

Captain Goodale, formerly of the barge Newcombe, arrived here, from Buffalo Monday, to look after some repairs to be made on her. He will command the propeller Coffinberry next season, Captain Martin her former commander having decided to give up sailing. We wish both of them success in their new undertaking.

The inquiry for vessel room continues very active, and though the rates remain strong at 5½ and 6 cents for corn and wheat respectively, vessel owners refuse to let much tonnage go. They are perfectly content to wait until March, when the rates, as they claim, are bound to be the same and when the cost of loading will have diminished considerably. Twenty six vessels have been chartered. The total number of bushels is in the neighborhood of 800,000. The following charters have been made during the past few days. To Buffalo—Schooner Lizzie A. Law, wheat, $50,000 bushels; schooner F. A. Georger, corn, 50,000 bushels; schooner Annie Sherwood, corn, 40,000 bushels; propeller Alaska, wheat, 40,000 bushels. To Georgian Bay—Schooner A. Mosher, corn, 22,000 bushels; schooner Lottie Wolf, corn, 22,000 bushels; schooner Thomas H. Howland, corn, 24,000 bushels; schooner Sophia J. Luff, corn, 21,000. The corn rate to Collingwood is 4 cents.

The following vessels have been chartered to load, during the past week: Schooner C. C. Barnes, corn to Buffalo, at 5½ cents; barge S. M. Stephenson, corn to Buffalo, at 6 cents; schooners Ida Keith, Donaldson, D. E. Bailey, and Wayne, corn to Buffalo, at 6 cents; schooner Mediator, corn to Georgian Bay at 4½ cents.

Our new fire boat Geyser did splendid work at three fires on Friday last, gaining for herself and her gallant crew an excellent reputation. But for the services rendered by her the loss at each of the fires would have been very much larger and she will soon pay for herself if she has not already done so. One of the fires occurred in the block on South Water street in which Messrs. Dunham & Hoit's ship chandlery and sail loft is situated and several sets of sails, stored away for the winter, were damaged by fire and water. WILLIAMS.

The propeller John Kelderhouse has been sold by the Gardner estate to Mueller & Christie for $10,000.

The insurance on the cargo of the lost schooner Comanche, amounting to $4,000 has been paid to Patton Bros.

Thomas Jones, of Racine, has sold his quarter interest in the schooner Lottie Cooper to Harry Smith, her captain, $1,900. Her hailing port will now be Chicago instead of Racine, as heretofore.

Captain P. W. Costello leaves for Kelley's Island for the purpose of taking the steel rails out of the propeller Northerner. It will be remembered that about November 1 this vessel, which carried besides the steel rails a cargo of quicklime, sprung aleak when off Kelley's Island, and the lime setting fire to her made her a total loss.

The Chicago Inter Ocean says: "The grain tonnage in the port of Chicago this year is 1,000,000 bushels less than it was last year. The grain on hand, which will be ready for shipment when the season opens, is, if anything, larger than the amount on hand the previous year. The result is that vessel agents can rest easily with the knowledge that freights will be way up in G. Thus far only sixteen charters have been reported, and they have all been made at good figures.

Captain L. F. Nelson, of the schooner W. H. Hawkins, made his report to the custom house last week of the beaching of his schooner near Muskegon on October 4.

Annie H. Kramer and John Anthony, and

[Continued on 5th page.]

MARITIME LAW.

COLLISION--STEAMBOAT AND BARGE AT PIER --FOG--SPEED--NECESSITY FOR CONTROL OF SPEED.

Ferris v. Steamboat St. John.

U. S. District Court, Southern District of New York.

Where the steamboat St. John was running in the North river in a fog within 100 or 200 feet of the line of the piers, and ran into libellant's barge, which was one of a tow hauled up in that place, where tows are accustomed to be hauled up, it was held, on suit brought, that a steamer of the size of the St. John had no right to be going up river in a dense fog so near the piers where it was not unusual for tows to be hauled up, except under such slow speed as to be capable of being stopped dead within the distance at which such an obstruction could be seen; that the St. John was, therefore, liable for the damage.

E. D. McCarthy, for libellant; De Forest & Weeks, for claimant.

Brown, J.

About 11 o'clock in the morning of Oct. 28th, 1885, the steamer St. John, bound from Sandy Hook to pier No. 8, North river, when above the Narrows, encountered a thick fog. In passing abreast of piers Nos. 2 and 3, North river, she ran into the libellant's barge, which was the outside boat in the head line of a tow of some twelve or fifteen boats, doing some damage, for which this suit is brought. The tow was upon a hawser about forty feet long, and in charge of the steam tug Skeer. They had put in at pier 2 about two hours before, in consequence of the thick fog. The Skeer was made fast, heading down along the outer end of pier 2, and the tow tailing up river with the strong flood tide.

The pilot of the steamer estimates the distance at which they went outside of pier 1 at at about 100 feet; that they were going about five knots by land with the tide, and that the barge they struck was about 75 or 100 feet out in the river. He says they ran along parallel with the shore, going very slow; that at pier 1 the engines were stopped and worked by hand; and that they backed as soon as the barge was seen about 100 feet off, which was as far as could be seen through the fog. Whistles were heard from the tug indicating that it had a tow before the tug or tow were seen.

A number of the witnesses testified that the tow was tailing at a large angle, some three or four points out into the river, and that the flood sets in that direction. One witness states that the tide was already slack along the stone and setting a little down. But as both the libel and the answer state that the tide was strong flood and all the witnesses, save one, state the same; and as the almanac also gives the time of high water at 11:40 in the forenoon, more than an hour and a half after this collision, I must hold that the witness last referred to is mistaken; and that the libellant's witnesses who say that the tow tailed nearly straight up river and was but a few feet outside of the line of piers 2 and 3 are more probably correct. The tow was sixty feet wide. If, as the evidence indicates, the outer boat was some twenty or thirty feet distant from the pier, that would make the distance of the outer boat from eighty to 100 feet, which is the estimate of the pilot of the St. John of the distance of the barge he struck.

In that situation I can not hold that there was any legal fault in the situation of the tows. It was a place where tows were accustomed to haul up. Under such circumstances she had a right to go and remain there during the fog, and it was the duty of other vessels to take whatever precautions were necessary to keep away. As the tug is not a party defendant, no issue is presented whether or not she performed her whole duty in respect to signals, or in other respects, after putting in at this pier. The evidence shows, however, that she was sounding whistles; indicating that she had a tow there in her charge. The barge was without fault, and as I must hold that she was rightfully where she was, it follows that the St. John must make good the damage unless the accident can be fairly deemed inevitable or without her fault. The circumstances do not warrant such a finding. The Rockaway, 25 Fed. Rep. 776. A steamer of the size of the St. John had no right to be going up river in a dense fog within 100 or 200 feet of the ends of the piers when it was not unusual for tows like this to be hauled up, except under such slow speed as to be capable of being stopped dead within the distance at which any such obstruction could be seen. The Nacoochee 28 Fed, Rep. 462. When she found that she had come within 100 feet of pier 1, I think she was bound to go further out into the stream or take all the risk of proceeding so near to the shore. To reach her pier No. 8, she had yet a considerable distance to go. I am by no means insensible to the extreme difficulties that beset navigation in a dense fog, but as between a barge rightly moored at a customary place, and a steamer voluntarily proceeding close along the piers, the steamer whose interest it is to continue her trips must bear the loss that her enterprise, her speed, and the course that she selects, entail, rather than cast such loss upon an innocent third party who is without fault.

November 17, 1886.

A STEAM DREDGE IS A VESSEL WITHIN THE MEANING OF THE LAW.

Huisman v. Steam-dredge Pioneer.

U. S. District Court, Eastern District of New York.

The Pioneer was a scow with a steam shovel built into her which was worked by a steam engine located on the scow. She was a dredge, used for the purpose of moving the steam shovel from place to place, upon navigable water, and maintaining the same afloat while being operated to deepen the channel by shoveling up mud; she had no motive power of her own. Held, that her legal status was that of a vessel, and as such she was subject to a maritime lien for supplies.

Noah, Tibbets, for the libellants; Goodrich, Deady & Goodrich for claimant.

Benedict, J.

This is an action to recover a lien against the dredge Pioneer for provisions supplied for the support of the crew while engaged in working the dredge.

The decisive question of the case is whether the Pioneer is a vessel within the meaning of the law. The Pioneer is a scow with deck, bottom, and sides so constructed as to enable her to navigate the water. Built into her is a steam shovel, which is worked by a steam engine located on the scow. She is a dredge used for the purpose of moving the steam shovel from place to place, upon navigable water, and maintaining the same afloat while being operated to deepen the channel by shoveling up sand, mud and silt from the bottom, and depositing the same in other scows.

It is evident that without the ability to navigate and transport the shovel and engine on navigable water, secured by the method of construction, the structure in question could not perform the work for which it was intended and without this ability the shovel would be substantially useless. While on the other hand, without the shovel, the scow would still be available as a vehicle of commerce. A certain form and certain characteristics have been given her, for the sole purpose of enabling her to navigate the water and to transport from place to place and maintain afloat the shovel placed upon her, and her occupation is to transport and maintain afloat on navigable water the shovel, the engine and the coals used to work the engine. It is also to be observed that the shovel is devoted to the purpose of deepening the channels of navigable waters, an occupation in itself incident to navigation.

I have been referred by the claimant to the case of the dredge Nithsdale, decided by the maritime court of Ontario, in 1879, where a structure similar to this was held not to be a vessel. I judge from the opinion in that case that the decision was affected by the fact that the question before the court was narrowed to the definition of a ship or vessel used in navigation, as expounded in the interpretation clause of the vice admiralty court act, 1863. But, however this may be, I am unable to agree with the conclusion there arrived at.

As I understand it by the law of the United States, the absence from the dredge of a natural power of propulsion, the fact that she is not propelled by oars or sails, that she is flat bottomed, that she is engaged in harbors, rivers and docks, that she has to be moved to a distance by means of a tug, that she had no power of her own to be moved—none of these facts, nor all together, require the conclusion that she is not a vessel.

The dredge before the court in this case is adapted to be an instrument of transportation on navigable water, and was used in naval transportation when she transported from place to place the steam shovel and engine, and maintained the same afloat on navigable water while being used for the purpose of deepening channels. She is within the definition of a vessel given by the Revised Statutes, Title I., chapter one, for she is an "artificial contrivance, used or capable of being used as a means of transport in water." In my opinion her legal status is that of a vessel.

In the case of the Alabama, reported in 22 Fed. Rep. p. 449, a dredge similar to the one here under consideration was held to be a vessel, under the meaning of the law.

Let there be a decree for the libellant for the amount of his bill, viz., $105.18.

November 22, 1886.

TONNAGE AND DEMAND.

Special Correspondence to the Marine Record:

BUFFALO, January 4, 1887.

We have fairly entered into a new year, and with favorable prospects ahead, apparently, for all kinds of business. A word in the meantime to our lake men may not be inopportune. The experience of the past few years may lead us to believe that the millenium of business has arrived, and that bad times are to be our lot no more. Well, if that view is taken of it the result may be to throw us back into the old rut again—"over-production." When we look at the reports that reach us from every direction of the large amount of tonnage under construction and already contracted for to be put in operation the present year, it is a cool brain that stops and reflects for a moment, and that reflection naturally causes us to ask: "Are we not going too fast?" The answer comes to us from inflated ideas. We have lost 36,000 tons of lake tonnage, and we must replace it again, in valuation nearly three times the amount. It is true we are constructing a class of tonnage that is more desirable than that which has disappeared during the past season, and will be better calculated to contend with low freights and compete with their natural enemy—railroads, with more success. But I still contend that we are a nation, prone to overestimate our wants, and that natural pride exists in every walk in life that we will not be outdone by our neighbor, even if we have to stagger under a burden of debt and go outside of our better judgment.

The season of 1886 was a remarkable one. It was a treacherous season for lake business. The signs of the times were deceptive; the improvement came too late, for some. Even the most sagacious were deceived, tied up, and were unable to take advantage of the improvement until the best part of the working season was over. Though it was said no money was lost on these contracts, they were only deprived of taking advantage of the rise in rates above the contract price, which I consider was that much lost, whatever that was. It is to be hoped that the system of contracts will fall into disfavor; at least the system in vogue and practiced by brokers in Cleveland, regarding iron ore contracts which are unjust to vessel interests, and owners should look to it, and discountenance such transactions in a very pronounced manner. Brokers should be satisfied with their legitimate commissions, for procuring charters, and not take advantage of the goose that lays them the golden egg. If we reflect for a moment we see the absurdity of men advertising themselves as brokers doing a shipping business, when in reality they are contracting without a single ton of tonnage which they actually control. They are bears in the market, and are enemies to their best interests. Vessels owners ought to see it.

Everything is quiet in Buffalo. Nothing in the way of charters are being talked of Some coal men have been feeling the pulse of the lake interest to see how it beats. There will be a higher rate of freight paid next season than was paid at the opening last year. There is no stocking of coal yet, but it is thought there will be early next month. Coal is not going west by cars as lively as it did during part of last month. Cars are very scarce, and the railroads don't care to carry that class of freight at present rates.

WM.

THE BOUNTY BILL.

An act for the relief of the merchant marine of the United States engaged in the foreign trade: Be it enacted by the senate and house of representatives of the United States of America, in congress assembled: That on and after the passage of this act, there shall be paid, out of monies in the treasury of the United States, not otherwise appropriated, to any vessel, whether sail or steam, built and owned wholly in the United States, engaged in the foreign trade, the sum of thirty cents per registered ton for each one thousand miles sailed, and *pro rata* for any distance traveled less than one thousand miles on any voyage or voyages between this and any foreign country or countries, and the measure of distance traveled, and the distance between ports or places in this country, and ports or places in foreign countries, and between one foreign port or place and another foreign port or place, and from any designated point of longitude and latitude to any port or place in this country or any foreign country, shall be determined by measurements which shall be furnished by the United States hydrographic office to the bureau of navigation, and such payments to any vessel as aforesaid shall be paid on the vessel's arrival at a port of entry in the United States, in accordance with such regulations as the secretary of the treasury shall prepare and promulgate.

The payment at the rate of thirty cents per ton for each one thousand miles sailed as herein provided to be paid to vessels engaged in the foreign trade, shall continue for the term of ten years, and thereafter for another term of nine years at a reduction of three cents per ton each year upon each one thousand miles sailed, and *pro rata* for any less distance traveled.

SOMETHING NEW FOR SAILING CRAFT.

Something new in small sailing craft is the invention of a Long Island boating enthusiast. His boat looks like an ordinary shallow and light built skiff, only she is decked over a rather small cockpit. A long and rakish looking spar rises in a curve above her stubby mast and stretches a sail that seems disproportionately large. She has neither keel nor center-board, yet she goes to windward like an ice boat. The device which does the work of a keel or center-board is the invention of her owner and builder, Thomas Clapham, of Roslyn. He calls it a weather grip. It consists of a runner—shaped a good deal like half a barrel head—hung to a hinged outrigger amidships. This runner may be attached to either side of the boat, and the little vessel sails equally well whether the "grip" is out to windward or to leeward. No matter how much she lists either to or from the "grip," the position of the runner in the water is always the same. It can be unshipped as easily as an oar can be taken from a rowlock. Mr. Clapham says that the saving of the space occupied by center-board trunks in small, shallow boats is something to delight the heart of every skipper.—*Boston Transcript.*

RESOLUTIONS OF REGRET.

At a regular meeting of the Marine Engineers' Benefit Association No. 3, held in their hall, No. 17 Woodward avenue, in the City of Detroit, January 5th, 1887:

WHEREAS, on the night of October 13th, 1886, a collision occurred on Lake Michigan, between the steam barges Sela Chamberlain and John Pridgeon, Jr., resulting in the sinking of the former, and thereby causing the death, by drowning, of second engineer Louis Dunphy, Jr. age twenty-two years, five months and five days,

WHEREAS, it having pleased our Heavenly Father in His most infinite wisdom to so remove from our midst our young and esteemed member, his parents a most estimable son, his sisters a beloved brother;

WHEREAS, he was a young man just entering on that mission which is the desired ambition of us all to fulfil, and, as he was a young man of strict integrity of character, diligent in the fulfilment of every duty, and punctual in the discharge of every obligation;

Wherefore, be it Resolved, that while we recognize the supremacy of, and bow submissively to the all wise Providence, it is with sincere regret that we part with Brother Dunphy, and mourn with those who mourn,

Resolved, that guided by the power of love, we extend to his bereaved parents and loving sisters our most heartfelt sympathy in this, their sad hour of tribulations, and commend them to Him who alone consoleth and healeth the wounded heart, and gives strength to bear the bereavement,

Resolved, that a copy of these resolutions be sent to the parents of the deceased, also one to Mrs. John F. Stevens, his sister, also they be spread on the minutes of this meeting, also be published in the papers of this city, also the papers of Erie, Pa., also our charter be draped in mourning for thirty days.

JOHN SKELLY,
A. W. NEEDHAM,
ALFRED BROOKS,
} Committee.

J. M. CRONENWETH, President.
JOHN SKELLY, Recording Secretary.

The Buffalo Express says: The annual meeting of the Buffalo Yacht Club was held at the office of Messrs. North & Vedder recently. The following officers were elected: Commodore, Harry D. Williams; vice-commodore, Robert W. Chisholm; secretary, Mort C. Provoost; assistant secretary, Henry L. Chisholm; treasurer, W. C. Cowles; measurer, John H. Swanson; chaplain, the Rev. C. F. J. Wriggley; surgeon, Dr. H. Mickle.

A committee, consisting of Commodore Williams, Vice-Commodore Chisholm, E. C. Roberts, and W. C. Cowles, was appointed to select club rooms for the winter. A committee was also appointed to organize branch clubs at other lake ports. A communication was received inviting the club to join the Inter-Lake Yachting Association. The communication was laid on the table. Mr. Andrew T. Ball of the cutter Vera, Port Dover, was the only out of town member present.

The family of Patten, in Maine, has been long and honorably known in connection with our shipping interests. Robert Patten, the grandfather of the late Commissioner Jarvis Patten, began building vessels immediately after the close of the revolutionary war, and continued the business until the war of 1812. Of the same stock were the members of the well known firm of G. F. & J. Patten, who carried on shipbuilding in Bath from about 1820 to a recent date. Their ships were of excellent character and did much to establish the reputation of our Eastern ship builders. The last vessel built by them, in 1870, was a steamship of 1,500 tons, which was taken to the Pacific coast by Captain Jarvis Patten and sold. John Patten, the junior member of the old firm, is still living and active at the venerable age of ninety-six. He is respected for his high character and many charitable deeds.

The popular but rather eccentric J. Hyatt Smith used to tell with great glee how he escaped seasickness on the English Channel. He suffered from this malady on the Atlantic, the Mediterranean, the Adriatic, the German ocean—every where, in fact; and he expected a like experience on the Channel. On the steamer, however, he got into earnest conversation with a hard-headed Scotchman, who made a vigorous defense of the Southern Confederacy. Mr. Smith, who was an ardent supporter of the Union, became greatly animated in controverting the Scotchman's argument and, as he said, forgot all about being seasick. In narrating this incident he would add: "Now, if you want to escape seasickness, I can tell you of a sure preventive: "Get into an argument with a stubborn old Scotchman."

THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

VOL VIII. NO. 19. CLEVELAND. O. MAY 13. 1886. $2.00 PER ANNUM. SINGLE COPIES 5 CENTS

Forest City Cigar Store,
THOMAS LIGGET, Prop'r.
MANUFACTURER AND JOBBER OF
CIGARS AND TOBACCOS,
NO. 259 PEARL STREET, CLEVELAND, O.

This cigar is manufactured from the finest selected tobacco. It does not contain any drug or artificial flavor.

AROUND THE LAKES.

CLEVELAND.

Captain J. W. Cramer of the schooner S. V. R. Watson was in the city this week.

There is a letter at this office for A. Parks, steam yacht builder. Official business.

The tug Record, with barges carrying one million feet of lumber from Bay City arrived at Tonawanda on Sunday.

We take the liberty of directing the attention of readers to the card of the Forest City cigar store, Thomas Ligget, proprietor, on

CHICAGO.

Special to the Marine Record.

Grain freights are firm and plentiful at 3¼c and 3⅛c on corn and wheat to Buffalo, and in proportion to other ports. The strike has interfered greatly with lumber freights, but the outlook is better, several vessels having gone off the market to unload up the river. The V. O. T. Company put three more of their tugs in commission on Tuesday, the J. V. Taylor, Captain J. Shea, the Thomas Hood, Captain John Jurgen, and the A. A. Carpenter, Captain James Inman.

The tug A. Mosher, of Dunham's line, is stationed in the lumber district, as a fire boat, in the employ of the city authorities.

The schooner Amsden, Captain Loughlin, which arrived here Friday morning with lumber from Frankfort, looked badly broken up in consequence of her having been run into by the tug Gregory the previous Tuesday night, off Frankfort pier. The Amsden's stern was so badly damaged that she went to the drydock for a new one as soon as her cargo was discharged.

The L. M. & L. S. T. Company's passenger and freight steamer City of Duluth, Captain Lyman Hunt, left Chicago for Du-

DETROIT.

Special to the Marine Record.

The railway steam ferry, Great Western, while lying moored at Windsor, on Saturday, with all hands on shore, took leave, on her own account, of her moorings, and drifted quite a distance down stream, narrowly escaping getting foul of an upward bound tow. Another of the steamers followed her up, brought her back, and ordered all hands on board. As marine matters are at a low ebb it made up an item.

The Garden island timber fleet from Lake Ontario, made their first appearance Saturday, bound for Traverse city, to load with timber for the Quebec market. The fleet consists of the steamer Calvin, shooners Russia, Denmark, Norway, and Bavaria, all of which are large carriers.

About midday on Monday, all eyes were turned toward Lake St. Clair to witness the arrival from Port Huron of the Idlewild and Darius Cole, pitted for the first time. The latter arrived about ten minutes ahead, but it is said the Idlewild called at the Star Island House while the Cole kept on. On returning the Idlewild left about five minutes ahead of the Cole in swinging out from the dock, and was well under way when the

BUFFALO.

Special to the Marine Record.

There appears to be a movement to force coal freights up. The propeller lines have agreed not to carry any for less than 60 cents to Chicago and not at that rate until a meeting has been held.

The propeller Onoko with 89,500 bushels of wheat and the Nebraska, with 15,000 barrels of flour were the first arrivals of the season from Duluth.

The schooner Pensaukee had her damages repaired at Mills drydock.

The steamer V. H. Ketchum, with ore from Marquette, arrived Sunday morning, the first boat this season from Lake Superior. The propeller Nebraska, with flour from Duluth, came in an hour later. Both will return light; the Ketchum to Marquette, she being under charter for another ore trip, and the Nebraska to Duluth, she being engaged to bring down flour during the season.

The new steamer Simon Langell, arrived Sunday night with lumber from Bay City on her maiden trip. She carries about 700,000 feet and is a fine looking boat; gross tonnage 843.87 and net 677.88; official number 116 001.

Cleveland Drydock Co.,
Shipbuilding, Drydocking, Repairing and Spar Making.
CLEVELAND, OHIO.

SPIEGLE BROS.
MARINE SUPPLY STORE
WHOLESALE AND RETAIL
Grocers, Bakers and Ship Supplies;
Fresh & Salt Meat of all Kind.
30 & 32 River-st., opposite Detroit Steamboat Landing, and 184 Broadway. Telephone 112,
CLEVELAND, OHIO.

Established in 1859.
HENRY LEOPOLD.
Manufacturer and Dealer in all kinds of fine and plain
FURNITURE & UPHOLSTERY,
And Manufacturer of Counters, Shelving, Bank and Bar-room Fixtures.
Mattrasses and Vessel Furniture
A SPECIALTY.
Warerooms 798 and 800 Lorain-st., near Fulton. Factory 10 Willet-st.
CLEVELAND, OHIO.

GEORGE SAAL'S SON.
Copper-smithing of all Kinds.
VESSEL WORK A SPECIALTY.
403 and 405 Detroit-st., corner Duane-st.,
Telephone 1638. CLEVELAND, O.

AN IRON MINE FOR SALE.
This mine is on the shores of Lake Huron, close to a good harbor. First-class ore, assayed 70 per cent pure iron. This ore is said by experts to be much better than Lake Superior iron ore and the only ore of its kind so far discovered on this continent capable of making Bessemer steel. Will sell outright, on shares or a royalty. Specimens of ore furnished and inspection of mine solicited.
Also, two silver mines on Lake Superior, close to a good harbor. Specimens furnished. Apply to
MARINE RECORD, Cleveland, Ohio.

LAKE SHORE & MICHIGAN SOUTHERN.

Commencing Sunday, Nov. 14 1886 at 5 o'clock p. m the time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive	Depart.
No 4, Fast Limited Express	*2 55 A M	*8 05 A M
No 8, N Y, B & A Express	*8 25 A M	*8 55 A M
No 26, Elyria Accommodation	†7 45 A M	.....
No 24, Buffalo Ac'm via Sandusky	†10 30 A M	†10 45 A M
No 24, Toledo Accom via Norwalk	†10 30 A M	†10 45 A M
No. 10, New York "Flyer"	.....	*12 noon
No 12, N Y & B Fast Express	*2 10 P M	*2 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 25 A M
No. 23 Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	*5 20 A M	6 35 A M
No 25, Mich Accom Norwalk	.....	†6 30 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†8 20 P M
No 5, St Louis Ex via Sandusky	*10 45 A M	*10 50 A M
No 9, Chi Pac Ex via Norwalk	*6 15 P M	*6 45 P M
No 31, Elyria ac to Elyria only	.....	†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 8:15 a. m and 1:45 p. m.; returning, leave Nottingham at 8:50 a. m. and 3:45 p. m.

Reference marks—* Daily, † daily, except Sunday, ‡ daily, except Monday.

A local Cleveland and New York sleeper and dining car daily on No. 10, leaving Cleveland at 12 noon; arrive Grand Central depot, New York, 7.30 a. m.

For full information as to trains and connections apply at the Union ticket office, corner Bank and Superior streets, under Mercantile Bank.

M. E GAUL, City Passenger Agent.
W. P. JOHNSON, Gen'l Pass. Agt., Chicago. Ill.

The Nickel Plate!

NEW YORK, CHICAGO & ST. LOUIS RAILWAY.

The passenger equipment of this New Trunk Line is all new and is supplied with the latest appliances necessary to safe, speedy and comfortable travel.

Trains leave and arrive at the Union Depot, Van Buren street, Chicago, and N Y, L E & W R'y depot at Buffalo.

Following is the time in effect April 25, 1886, and until further notice:

EASTWARD.	Arrive.	Depart.
Buffalo Passenger	*10 40 A M	*10 45 A M
Chicago Passenger	*9 10 P M	.....
Local Freight	* 4 40 A M	* 5 45 P M
WESTWARD.	Arrive.	Depart.
Chicago Passenger	.....	*6 30 A M
Fostoria Passenger	*4 46 P M	*4 51 P M
Local Freight	* 5 00 P M	* 5 50 P M

ROCKY RIVER ACCOMMODATION.
Depart—7:40 a. m., 1:35 p. m.
EUCLID ACCOMMODATION.
Depart—6 24 a. m, 9:10 a. m,. 5:05 p. m.
Through tickets to all points are on sale at principal offices of the company at LOWEST RATES for any class of tickets desired. Baggage checked to destination
For information, call on nearest agent of the Company, or address
B. F. HORNER,
Gen'l Passenger Agent,
LEWIS WILLIAMS,
General Manager. Cleveland, O.

WINTER TOURS TO THE
South, Texas, Mexico, California
VIA
BEE LINE
On November 13, 1886, a through line of elegant
Reclining Chair Cars Free,
was established between Springfield, Dayton, Union, Indianapolis and St. Louis.

Eastward from Columbus, Cincinnati, Indianapolis and St Louis, this line is the quick
THROUGH CAR ROUTE
TO
EASTERN CITIES.
A. J. SMITH, General Passenger Agt.,
BEE LINE,—(C C C & I R'y. D. & U. R. R.—I & St. L. Ry.)

VESSEL OWNERS AND AGENTS.

THOS. WILSON
MANAGING OWNER
Wilson's Transit Line.
Gen. Forwarder. Freight and Vessel Agent.
CLEVELAND, O.

H. J. WEBB & CO.,
Ship Brokers, Vessel Owners and Agents.
[ESTABLISHED IN 1856.]
H. J. WEBB & Co., will charter Vessels for Lake Trade Special attention given to Chartering Vessels in the Lake Superior Iron Ore Trade, both for the season and single trip.
ARCADE BUILDING, 101 ST. CLAIR ST.,
Room 27. Cleveland, Ohio.
TELEPHONE {Office, No. 338. Residence, No. 1328.

WARNER & BECKER,
Vessel Agents and Brokers,
ROOM 10,
Arcade B'ld., 101 St. Clair St,
CLEVELAND, OHIO.

J. J. H. BROWN. EDWARD SMITH
BROWN & CO.,
Ship Brokers and Agents.
Special Attention given to Surveying, Appraising and Settling Marine Losses.
Exchange Building, 202 Main-st., Buffalo, N. Y.

ALEX McDOUGALL,
VESSEL AGENT AND BROKER,
Duluth.
Owners and masters of vessels wishing to get cargoes of grain from this port will do well to confer with me. Will be glad to furnish information in regard to cargoes, also in relation to docks, depth of water, etc., at Duluth, Agate Bay (new iron ore port), Port Arthur, Washburn, Ashland, and all points near the west end of Lake Superior. Good gangs of men furnished on short notice for trimming cargoes of grain, loading and unloading all kinds of freight.

PALMER & BENHAM,
Vessel Owners & Agents,
New Bank Building, corner of Superior and Bank Street, Cleveland, Ohio.

MOORE, BARTOW AND GILCHRIST,
Ship Brokers and Agents,
No. 104 St. Clair Street, Room 15.
CLEVELAND, - OHIO.

JAMES T. ROSE,
Vessel Agent and Broker,
Room 4, Exchange Building, Duluth, Minn.
I have an excellent gang of Trimmers this season, Captain Miller's old Crew.
Special Attention Paid to Chartering Vessels, and seeing that they get dispatch in Port.
CORRESPONDENCE SOLICITED.

JOHN P. DEVNEY,
Marine Collector.
Collections Promptly Attended to.
ASHTABULA HARBOR, OHIO.

ROBERT RAE,
Admiralty and Insurance Law Office,
Room 37 Merchants' building, CHICAGO. ILL.

WM. H. DeWITT,
Attorney and Proctor in Admiralty.
ROOM No. 6, BLACKSTONE BLOCK.
CLEVELAND, OHIO.

PENFIELD BLOCK Co.,
Lockport, N. Y.

Anchor" Snatch Block, No. 511.
ANCHOR BRAND TACKLE BLOCKS,
Store and Warehouse Trucks.
ALL STEEL ROLLER BUSHINGS,
Phosphor Bronze Self-Lublicating Bushings.
GOODS FOR SALE BY PROMINENT DEALERS EVERYWHERE
Ask for Anchor Brand Blocks.
Illustrated Catalogue and Price List Mailed on Application.

Single Inside Iron Strapped, No. 7

DR. JOHN TRIPP'S
BLOOD PURIFIER.
Office Removed to 375 Prospect Street,
CLEVELAND, OHIO.

OFFICIAL NUMBERS AND SIGNAL LETTERS.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, WASHINGTON, Jan. 3, 1887.

To the Editor of the Marine Record:

Following is a list of merchant vessels of the United States to which official numbers and signal letters were assigned by the Bureau of Navigation, Treasury Department, during the week ended Jan. 1, 1886:

Official Number.	Signal Letters.	Rig.	Name of Vessel.	Tonnage. Gross.	Net.	Home Port.
			SAIL VESSELS.			
106 450	.....	Sc.	Allie I. Algar,	....	.....	Seattle Wash.
126.405	.....	Sc.	Cloudy May,	10 48	9 95	Town Creek, Md.
135.915	.....	Sc.	Elva May,	7 25	6.89	do do
95.900	.....	Sc.	Hattie D.	7.44	7.08	Beaufort, N. C.
91,896	.....	Sc.	M. Blanche Hayward,	10.48	9.95	Town Creek, Md.
91,897	.....	Sc.	May Flower,	10 80	9 35	do do
116 133	.....	Sc.	Sea Gull,	8.01	7.61	Somers Point, N. J.
116,135	.....	Sc.	Sarah Frances,	8.23	7.84	Beaufort, N. C.
			STEAM VESSELS.			
120,663	.....	St.	Favorite,	....	17.11	Astoria, Oregon.
95,899	.....	St. yct	Howland,	27.31	13.66	Brunswick Ga.
116,134	.....	St. p.	Sallie,	68r25	68.25	Wheeling, W. Va.
			UNRIGG'D VESSELS.			
48,559	.....	Barge.	Leila,	182.02	182.02	St. Louis, Mo.

C. B. MORTON, Acting Commissioner of Navigation.

CAPT. GEO. A. SIMPSON,
Compass Adjuster,
COMPASSES, BAROMETERS, PATENT LOGS AND MARINE GLASSES REPAIRED,
Schooners can have their Compasses Adjusted for Local Attraction at the time of repairs by stating how much they are out on East or West Courses, and which way it leads, North or South of above Courses.
161 River St., Cleveland, O.

Scott's New Coast Pilot
IS SOLD by
SHIP CHANDLERS
AND BY THE PUBLISHER,
GEORGE SCOTT,
AT 162 LARNED ST., E., DETROIT, MICH

FOR SALE CHEAP,
TWO MARINE BOILERS.
THE undersigned offers for sale two second hand marine boilers. 7½ feet diameter by 18 feet long. They were built by M. RITER of Buffalo and are allowed to carry 75 pounds of steam, according to marine inspection, but with slight repairs will be allowed greater pressure. Address,
James Corrigan,
STANDARD BLOCK, CLEVELAND, O.

WARD & JACKSON,
SHIPSMITHS.
All Kind of Forgings,
Bolts and Truss Rods for Building.
49 Main-st Cleveland

Vesselmen
SHOULD HAVE
OUR MARINE LAW BOOK,
ON
Seamen, Owners,
Freights, Charters,
Towage, Registry,
Collisions, Enrollments,
General Average, Common Carriers,
Duties of Seamen, Masters & Owners,
Bill of Lading, Wages, &c.

A BIG OFFER. To introduce them we will GIVE AWAY 1,000 Self Operating Washing-Machines. If you want one send us your name, P. O. and express office at once. The National Co. 23 Dey St., N. Y.

Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PROP'R

TERMS OF SUBSCRIPTION:

One year, postage paid.....$2.00
Six months, postage paid..... 1.00
Invariably in advance.

THE MARINE RECORD can be found for sale by the following news dealers:

CLEVELAND, O.—G. F. Bowman, corner of Pearl and Detroit Streets.

Evans & Van Epps, Superior street, Cleveland.

R. A. Castner, 254 Detroit street, Cleveland.

ASHTABULA HARBOR, O.—C. Large.

CHICAGO, ILL.—Joseph Gray, 9 West Randolph Street.

CHICAGO, ILL.—August Semper, 345 Noble Street.

BUFFALO, N. Y.—Miss McCabe, Elk Street, near Ohio.

DETROIT, MICH.—N. F. Stewart, Ft. of Woodward Av.

DULUTH, MINN.—C. F. Johnson, 117 West Superior Street.

MARQUETTE, MICH.—J. A. Vannier.

ESCANABA, MICH.—Wm. Godley.

SARNIA, ONT.—D. McMasters.

MATINE CITY, MICH.—McNiff & Son.

Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., THURSDAY, JAN. 13.

IRON ORE TRAFFIC ACCOMMODATION.

The three greatest sources of traffic on the northwestern lake system are iron ore, lumber and grain, of which the chief in point of value is iron ore. The growth of the iron ore trade within a comparatively short number of years is one of the marvels of the general development of the natural resources of the northwest. Before 1854 few of the people dreamed of the enormous wealth that lay buried in Wisconsin and Michigan in the shape of iron ore, and probably for one ton of the precious commodity shipped at that time annually there are now thousands during the same period. Mr. C. S. Florence, Wis., of the Mining News, has collected a number of statistics with respect to the shipment of ore from the Lake Superior region, within the period embraced between 1854 and 1886, which shows in a most remarkable manner the gigantic growth of this one branch alone of northwestern trade within little more than a quarter of a century. In 1854 the total product of iron ore in the Lake Superior region was 3,000 tons, and the entire quantity was derived from the Cleveland mine, in the Marquette range. In the year following the production from the same mine was only half that amount, and a good many people began to believe that the iron ore capacity of the Lake Superior region, if not actually exhausted, was on the point of being exhausted. Those were dismal prophets of evil, however, for that same Marquette range, which was supposed to be played out, has since yielded more ore than any other range, its total production up to a year ago being something like 23,376,352 tons, of which 3,862,222 tons were yielded by the Superior mine, and 3,437,114 tons by the old Cleveland mine. The total product of all the mines in the Lake Superior region, which includes the Marquette, Menominee, Gogebic, and Vermillion ranges, has been 31,120,702 tons since 1854; and instead of the Cleveland being the one solitary mine there are now 117 in operation. The Menominee range has yielded 6,240,991 tons; the Gogebic range, 862,923; the Vermillion, 592,004; and abandoned and miscellaneous mines, 48,432 tons. Compare the total production--3,562,015 tons—of the mines in the four principal ranges in 1886 with the 3,000 tons taken from the old Cleveland mine in 1854, and some idea will be gained of the phenomenal growth of the iron ore traffic on our great lake system. While it has been the means of creating colossal private fortunes—some, as in the case of the accidental discoverer of the Gogebic mine, in the most romantic manner—it has also been the principal agent in building up cities which would be a credit to any country of infinitely older growth.

Last year, down to which Mr. Florence brings his statistics, was the thirtieth in the history of the iron ore industry of the Lake Superior district, and in many respects the most remarkable. It exceeded all previous years in the amount of ore shipped to market; it witnessed the largest amount of sales ever made from the Lake Superior region; and at its close there was less ore left on hand, unsold, in proportion to the amount of production, than during any previous annual period. The largest receipts of ore last year were at Cleveland (1,034,650), Ashtabula (772,090), Sandusky (157,970), Lorain (99,744), Erie (91,250), and Huron (44,021), while the aggregate receipts at all Lake Erie ports were 2,168,544 tons, compared with 1,503,969 tons received during the previous year, representing an increase of 664,585 tons, or 44.2 per cent. The Iron Trade Review, after quoting statistics to show that on the 1st of December last year the total amount of gross tonnage left on dock at all the ports on Erie was 966,472, while in 1855 the amount was 82,468 tons, or only 8 per cent less, while the increase in receipts last year was 44.2 per cent over those of 1885, remarks that there can be but one conclusion from these figures, and that is, that by the opening of navigation this spring, the docks will be swept clean, and unless all present signs fail, the product of iron ore this year will reach, if it does not surpass 4,000,000 tons.

This probable increase of the iron ore trade fully justifies the recent action of the Cleveland vessel men in trying to obtain better facilities for unloading ore at this port and for shortening the time which ore men have been allowed to furnish dock room for loading or unloading cargoes. Cleveland has rivals who are quite willing to snatch at the trade which she can not accommodate and must allow to pass her door. One of the most vigorous of these has been Ashtabula, which since 1873 has been making astonishing efforts to build up a great ore trade. In that year its receipts were only 15,112. Year after year her receipts kept lifting, until in 1885 she was only a few tons behind Cleveland. Last year, however, Cleveland took a big bound away from her little but pertinacious rival. Ashtabula, however, had 612,90 tons, which still placed her next to Cleveland. But although this city is credited with the receipt of 1,034,650 tons in 1886 (almost double the quantity she received in 1885), it is well known that her dock and unloading accommodations were so exhausted last year that vessels consigned to her at the place of loading had to receive intermediate orders to proceed either to Fairport or Ashtabula to unload. Of course, if Cleveland wishes to let young and vigorous rivals take her trade, well and good; Ashtabula and Fairport certainly will have no objections to the arrangement, and will take care that no want of proper unloading accomodations shall interfere with it. Cleveland, however, can scarcely afford to commit suicide yet awhile, and therefore her mercantile marine ought to bring the greatest pressure they are capable of to compel the railway companies to increase their unloading facilities, and also to restrict the time permitted for unloading to three days instead of four, so that dock room may be available to many more vessels during the season than has hitherto been possible. If something is not done quickly Cleveland will find itself wholly unable to cope with this year's greatly increased ore traffic, and Fairport, Ashtabula, and other ports will be built up at its expense. Their enterprise will readily fill up the gap created by the unbusiness-like neglect of the Forest City. The New York, Pennsylvania and Ohio Railroad Co. have shown their appreciation of the gravity of the position in Cleveland by deciding to expend $200,000 in improving their ore docks. The example is worthy of all commendation. What do the other railroad companies and the private dock owners intend to do about it? The *laissez faire* policy won't do where there are active competitors in the field.

Now that the city council of Cleveland, at the instigation of the Vessel Owners' Association and Board of Trade, has taken the matter of opening up the old river bed into the breakwater we trust it will be pushed. There is quite an opportunity presented for some aspiring city father to immortalize himself in beating down the opposition of a great railroad corporation. And as it is well known that Cleveland has not got dock room sufficient to accommodate her rapidly growing lake receipts in ore, even if she had the facilities for discharging it from vessels, a system of docks along the lake shore would be heartily welcomed.

WE advise all ship keepers to look closely after their fires this winter, as all the vessels we now have will be needed the coming season. It appears that steamers and vessels are burning both on the lakes and rivers, caused by carelessly leaving fires in the cabins.

AT a joint meeting of the vessel and ore men held some days ago. Messrs. W. D. Rees, H. P. Lillibridge and H. A. Tuttle representing the ore men, and Captain Thomas Wilson, J. C. Gilchrist and M. A Bradley representing the vessel men, were appointed a committee to consider the question of gaining certain concessions regarding the time when vessels should begin to charge for demurrage and the rate to be charged; that better facilities for loading and unloading should be provided by the railroads. On Tuesday the committee made its report which shows that the vessel men have secured two points, namely, that in the future three days instead of four shall be deemed sufficient in which to load a vessel and give her a dock for unloading, and that seven cents a ton demurrage may be charged instead of five cents. Although all the shippers have not approved of this measure it will doubtless prevail.

IT is apparent that the opening rate on ore for the coming season will be fixed at $2.00 from Ashland, $1.75 from Marquette and $1.50 from Escanaba to Ohio ports, Chicago carriers are refusing $1.40 from Escanaba to Ohio ports and no charters have yet been made.

THE temper of the railroads may be noted in the case of the Lake Shore notifying the council that they cannot possibly swing the bridge near the mouth of the river for the passage of the fire tug as they desire to make repairs.

"THE PROVIDENCE PLANTATIONS."

This is the title of a magnificent volume just published at Providence, R. I., by Welcome Arnold Green, (with a copy of which we have been favored through the courtesy of the American Ship Windlass Co.,)in commemoration of that red letter day, 250 years ago, when Missionary Williams, the intrepid Welsh graduate of Oxford college, landed off Rhode Island, and commenced that labor of christianization and civilization which made him as much beloved among the Narragansett Indians as among the small band of English colonists who followed his footsteps and shared his fortunes.

Mr. Green and his brother editors have given a very faithful historical sketch of the Plantations, from the time that Williams first set foot upon Rhode Island, as well as accurate description of the appearance they wear to-day, but probably no part of the volume portrays more vividly the enormous advance the Plantations have made than the chapters which are devoted to "the special industries of Providence." Such works as the American Ship Windlass Co. are famous the world over. To the mercantile marine of the lakes the sketch given of the American Ship Windlass Company should prove particularly and practically interesting. The firm over which Frank S. Manton presides as manager so ably is, of course, well known through its works; but there are many details connected with it which are less known, though still interesting enough to be worth learning something about. The works are situated at the corner of Waterman and East River streets, on the banks of the Seekonk river. Says the writer of the sketch: "But very few of our manufactories are so widely and favorably known. Their steam windlasses, steam capstans, improved hand windlasses, and hand capstans have been put on thousands of vessels, and are carried by them over the oceans of the world and our great lakes. From a small beginning in 1857 the business has grown to extensive dimensions and employs a large capital.

The modern vessel, whether propelled by steam or by sail to hold its own against the active competition of to-day, must have the most complete labor saving appliances, and no company has done more in this line than the American Ship Windlass Co., under the active management of their agent, Frank S, Manton.

ELECTION OF OFFICERS.

To the Editor of the Marine Record.

At a meeting of the brotherhood of lake marine engineers, held at their lodge on last Saturday evening, they elected their officers for the coming year. All, or nearly all of last year's officers were re-elected by acclamation, it being an occasion of much enthusiasm and good feeling. The members of the parent lodge have just cause to feel proud of their work for the past year, for although they have only been organized for the space of a little more than a year they now number some seventy-five or more engineers of recognized ability and good standing. The objects aimed to be obtained by this organization are to advance the best interests of their class morally, intellectually, socially, and last but not least, financially, and to elevate them to that position where they rightfully belong, making their calling what it really is, an honorable profession (not what, I am sorry to say, a great many consider it), an occupation whereby to obtain the means of existing. From the present outlook of affairs in connection with this body I, for one, can not see why the very laudable objects that caused the existence of this order should not be attained in the near future, and the members merit the respect and confidence of all good citizens.

Mr. Editor, hoping you will give this communication a little space in your most valuable paper, and confer a favor on this association, I am yours respectfully,

CONDENSER.

M. E. A. NOTES.

Representative James H. Wilson, of St. Louis No. 6, paid Chicago a visit where he was royally entertained by the boys of No. 4. Mr. Wilson is president of No. 6, and a gentleman of ability.

No. 4, Chicago, opened her winter series of lectures with a lecture by Col. E. D. Meier, president of the Heine Safety Boiler Co., and is one of the most scientific engineers in the country. The subject chosen by Col. Meier was "The Elevating of the Steam Engineer," in which the distinguished gentleman was frequently applauded. Col. Meier, after graduating, served his time in a locomotive works, after which he put in seven years as master mechanic of a railroad.

Martin Stroder and Thomas F. Doud will represent No. 4 in the convention.

Past National President Ritter, owing to press of business, can not attend the convention.

Mr. Henry Burton will represent No. 43, Port Huron, in the convention in New York.

Chicago wants the convention in 1887 very well, but then Chicago had the convention in 1878, so let somebody else have it.

FAST TIME MADE BY OLD CLIPPER SHIPS.

Special Correspondence of the Marine Record.

CLEVELAND, January 12.

The Red Jacket ran 2280 miles in 7 days, or 325 miles a day for a week.

The Samuel Russell, for 30 days, averaged 226 miles a day, making in that time 6722 miles. At another time she made 328 miles in 24 hours.

The Sovereign of the Seas, in 10 days, made 3300 miles; in 22 days made 6245 miles, an average of 283.9 per day; one day making 419 miles. (1852).

The Flying Cloud made 433¼ miles in 24 hours, the fastest time ever made by a sailing ship, from noon to noon.

Dreadnaught—Sandy Hook to Rock Light, Liverpool, 3,000 miles, in 13 days, 8 hours. Same ship, Sandy Hook to Queenstown, 2760 miles, in 9 days, 17 hours. (1860).

The James Baines ran 420 miles in 24 hours.

The James Baines, from Boston to Liverpool, in 12 days, 6 hours.

The James Baines, from Liverpool to Melbourne in 62 days and returned in 60 days.

The Red Jacket, from New York to Liverpool in 13 days, 1½ hours. (1854).

The Mary Whiteridge, from Baltimore to Liverpool in 13 days, 7 hours.

The Richard Ryland, from New Orleans to Liverpool in 25 days. (1871).

The Flying Cloud, from New York to San Francisco in 84 days. (1851).

The Young America, from Liverpool to San Francisco in 99 days. (1873).

The Northern Light, from San Francisco to Boston in 75 days.

The Nightingale from New York to Melbourne in 73 days.

The Kathay, from Shanghai to New York in 92 days. (1857).

The Houqua, from Shanghai to New York in 88 days. (1850).

The Nabob, from New York to Shanghai in 95 days.

MARTIN GALE.

LEWIS' MARINE MANUAL.

Just the book for our mariners, engineers, etc., to read during the winter months. Contains reports and references respecting nearly 1,000 cases of collisions, ship wreck, accident, etc., etc., occurring on the great lakes and ocean some of them reported in full. Highly recommended by captain Gordon, R. N., Captain Drake, Captain Harbottle and other prominent marine authorities.

All those in arrears for the maintenance of range lights at the head of Russell's island, Fisher, or Lacroix dock, foot of Herson's island, Southeast bend, Peninsular club, and Star island, will please bear in mind that our postoffice address is box 207 Marine City, St. Clair county, Mich.

McNIFF & SON.

[*Around the Lakes Continued from 1st Page.*]

Edward Gullick, of Traverse City, sold the schooner Granger to John Gwennu and William Powers, of Chicago for $10,000.

A prominent ore carrier of Chicago has refused an offer of $1.40 on 50,000 tons of ore from Escanaba to Ohio ports. He is confident that the offerings will exceed this amount.

The earliest charter of a line boat since 1880 was made last Friday. The propeller Alaska was towed to the St. Paul elevator to load grain on p. t. It is claimed that the rate was more than 6 cents.

BUFFALO.

Special to the Marine Record.

Business in repairs to boats is brisk and the work being done in many cases extensive. Large repairs are going on in Union drydock to the V. H. Ketcham. She is having new top sides, deck, deck beams, stanchions, and rail, and will be supplied with steel arches 30x¾, which will make her much stiffer than before. The estimated cost of the rebuild will amount to about $15,000. The propeller Commodore is receiving repairs to upper works, and a neat design of steel arch will take the place of the old wooden arches overhead. The new steel arch will, in some particulars, resemble the Howe truss plow, or it may be called a sectional arch or parts of a circle, each part overlapping the other, extending from the upper deck downward. If it proves effectual it will be quite an improvement on the old clumsy wooden arch.

The Anchor line is making extensive repairs to propeller Philadelphia, and giving a very thorough rebuild to the schooner Schuylkill.

Some detention has been experienced in getting a timber supply for the new steamer building at Mills' yard. At the Union iron yard they have been detained because of not receiving as much iron as is required to push the work as fast as they desire. A large portion of the frame is up, and work on the water bottom is well advanced. She will be a monster ship for these waters.

There does not appear to-day to be so much demand for vessel property as there was some time ago. It is held too high.

In coal circles everything is quiet. No one has yet made any offers. It is said that an offer of 50 cents to Superior might be entertained. The fact is that none of the principal coal men are in the city.

The Gratwick tow appears to be likely to go entirely to pieces. The steamer is sold, and now the barge Freyer is offered for sale.

It is reported that Brinker, Moore, & Company intend to go extensively into the lake shipment of coal next season, using the Erie trestle.

Mr. E. T. Evans, manager of the Lake Superior Transit Line, left for St. Paul to look after the interests of the line at St. Paul and other points in the Northwest. The make up of the line for next season has not been talked of much yet. It is possible that the Starucca and Portage will with the Nyack represent the Union Steamboat Company in the line.

There is some thought of running the Susquehanna to Lake Superior next season, in case cattle or dressed beef can be secured for her dock cargo down. It is not yet known whether such a trade can be opened.

There is no little speculation over the opening ore rate. This is always the first lake rate made, and a meeting of vessel men has been held at Cleveland already. Nothing was done but to refuse the rates offered.

The Union line steamer Owego, building at the Union drydock, has most of her frames up, and plating has begun amidships. Her stem and stern forgings are expected from Cleveland in a few days. It is thought that the steamer will not be ready for business before September.

The custom house records show the following arrivals and clearance for the season of 1886: American vessels from foreign ports, 170, tonnage 28,690; American vessels to foreign ports, 165, tonnage 23,603; foreign vessels from foreign ports, 765, tonnage, 98,662; foreign vessels to foreign ports 759, tonnage 95,861; coastwise arrivals, 2,928, tonnage, 2,239,477: coastwise arrivals 2928, tonnage 2,239,477; coastwise clearances, 2,984, tonnage, 2,267,174; total arrivals, 3,863, tonnage, 2,366,829; total clearances, 3,909, tonnage, 2,386,638. The excess of clearances over arrivals is greater than the difference between the number of vessels laid up here during this winter and last winter. This discrepancy can be accounted for by the occasional clearance of coal cargoes by barges coming up from Tonawanda which did not report here. They are not required to clear a second time, but occasionally a captain does.

Christopher Cullen has been elected grand president of the Chicago, Detroit and Cleveland branches of the Lake Pilots' Association.

Wm. J. Burns of Buffalo, the engineer of the steambarge Ida Torrent, will not claim Buffalo as his home any longer. He was married last week to a charming young lady of Chicago named Miss Annie Gibbons. They will reside in Chicago.

WM.

DETROIT.

The lease of the propeller Newburgh and others, late of that and Ward's Line, to the Vermont Central Railroad to run in the Chicago & Ogdensburg Line included the privilege of buying any time before July.

Vessel property is held very high just now, though the brisk inquiry leads to an unusual number of sales. Among later transfers are the following: Tug Niagara of the Merrick fleet to B. F. Boutelle of Bay City for $12,000. The whole of the Merrick fleet is for sale, at $6,500 each.

W. H. Bridges of Bay City sold one-fourth of barge Boscobel to Dr. L. B. Parker of Marine City for $2,500. The Parker Transportation Company has sold the schooner James C. King to Smith Bros. of West Bay City for $14,000. L. Sanborn of East Saginaw has sold the barge H. W. Hoag to Johnson and Nelson of the same place for $2,500.

The trouble with ship carpenters in this locality has been settled and the men resumed work last Thursday morning. It is said employers are to select their own men, being influenced only by the competency or incompetency of the carpenters. The trouble has lasted several months, during which time men have been brought here from other points and then kept from working by the knights of labor. Several hundred men are affected.

MT. CLEMENS.

Special to Marine Record.

A new steambarge is building at this place by T. W. Snook, and Captain John Distrois. Dimensions are as follows: Keel 87 feet, beam 22 feet, depth of hold 6 feet in the clear, over all 95 feet. Her engine is 14x16 stroke, and the boiler 5½ feet in diameter by 10 feet long, made of ⅜ inch steel, by John McGregor, of Detroit. She is to be ready for business by the 1st of May, and will be employed in the wood and bolt trade between Wallaceburg and Mt. Clemens, and also raft towing from the same place for her owner, T. W. Snook. Captain John Distrois will command her.

The steambarge City of Mt. Clemens, which was engaged in carrying lumber last season between Oscoda and Detroit, has made forty-four down trips, in seven months time, carrying 7,500,000 feet of lumber, beside up freight. She has been very successful.

L.

PORT HURON.

Special to the Marine Record.

There was a meeting of the Owl Club and the following officers were elected for the year 1887: B. L., Captain Bill Curtis; O. L., Captain Vick Bonnah; C. B. L., Captain M. N. Petitt; 1st C. B. L., Captain George Bonnel; 2d C. B. L., C. M. Green; Sec'y L., Frank Holland; Treas. L., D. Hutchinson; Doorkeeper, Ed. J. Kendall. There was some important business before the club, and five applications for membership. All were received in due form on the angle of an L.

The sailors of the Masonic order gave one of their usual socials at Public Hall December 27. It was well attended. They all say when the Masons have a social, "Now is the chance for a jolly time; let's all go."

The following boats have loaded grain at McMorran & Co.'s elevator: Steambarge B. W. Arnold, barges E. C. Roberts, A. B. Maxwell, City of the Straits, Exile.

The elevators have their bins full and would like 1,000,000 more capacity if they could get it.

The Phœnix Iron Works are building a large Scotch boiler for the tug Sumner, of Alpena, size 12 feet in diameter by 12 feet 6 inches long, of the best steel.

The steambarge Curtis, which is in Dunford & Alverson's drydock, to be cut in two, is to have 30 feet put in her. It will increase her carrying capacity about one-fourth. There is some talk of making her a double decker.

Love & Scofield have two boilers to build, one for the steam tug Clara, of St. Clair, which is being rebuilt at that place, and will come out one of the finest tugs and excursion boats on the St. Clair river. Mr. McElroy never will be beaten. He has the finest and the fastest boat on the western waters in the steamer Mary. His other tug, building in Toledo, will have all the modern improvements.

RUBENZY.

Edmond Fitzgerald and Asa R. Cole, local inspectors of steam vessels at Port Huron, have made their report on the collision which occurred September 12 last between the steamers Grayhound and City of Cleveland near the Southeast bend in the St. Clair river. The City of Cleveland was attempting to pass the Grayhound on the port side when the collision occurred. It was shown in the evidence and admitted by the officers of the City of Cleveland that they neglected to give the proper signals for passing. On the other hand, the inspectors believe that the officers of the Greyhound were endeavoring to embarrass and crowd upon the course of the City of Cleveland. The Greyhound took an unusual course after leaving Joe Bedore's dock and also when the City of Cleveland came abreast. She sheered across the stream and "in spite of the alleged efforts of the wheelsmen and pilot" continued to sheer until she struck the City of Cleveland with her stern just forward of the forward gangway and the two boats lapped together. The Greyhound had chosen her course and was bound by that choice, and she had no right after that, and in this particular place to change her course. The Greyhound was reckless. She could have averted the collision by keeping her course or checking her engine for a moment.

The inspectors do not believe that either of the pilots would wilfully cause a collision, but this accident was due to careless inattention to the rules governing steam vessels. In view of these facts they have suspended the pilot's license of Chas. McIntosh, pilot of the steamer Greyhound, for the period of ninety days from January 3d inst., and the pilot's license of Dugal McLaughlin, master and pilot of the City of Cleveland, for the period of thirty days from said date. The suspension will not work any special hardship to either pilot at this season of the year. Under these circumstances the farce of an investigation might have been dispensed with, as there is no punishment; neither is the reputation of either of the pilots injured in the slightest degree by the suspension of their license.

Captains Alex. Sinclair, Arthur Conkey and Frank Holland deserve a good deal of praise for the enterprise and push shown by them, in the getting up and circulating a petition to raise money for the wives and fatherless children of the Port Huron sailors lost in the November storms. The amount raised was $710 and was distributed as follows: They paid off a mortgage on Mrs. James Cox's home and presented her with some cash besides. Mrs. John Davidson and children received $324; and Mrs. Michael Johnston and daughter were paid $120. The committee have some $40 yet promised them, which will be put with the $52 raised by the Baptist church memorial services, and they will divide the amount some time during the week.

SACKETS HARBOR.

Collector G. W. Warren, of Cape Vincent, made an official visit to Sackets Harbor last week and seized the tug boat Thistle, of Collingwood, Ont., which has been towing American boats coastwise in American waters, which it had no right to do under the present United States steamboat laws. The offense committed was towing lighters from Sackets Harbor to the wrecked schooner Comanche, where they were loaded with corn, and back again to Sackets. The fine imposed amounted to $90, it being 50 cents a ton on the vessel's tonnage.

SAULT STE. MARIE.

The ice bridge formed in the Sault a few days ago and is solid opposite Cape Rouge, Que. It will probably hold for the winter

MILWAUKEE HARBOR STATISTICS.

The report of Mr. James F. Trowell, harbor master of the port of Milwaukee, giving the number of vessels, steam and sail, in winter quarters at that port, and other items of interest, is very comprehensive and will prove valuable to all engaged in this interest.

Grain steamers, 22, 751,000 bushels capacity; grain schooners, 24, 901,000 bushels capacity; lumber steamers, 13; lumber schooners, 59; lumber scows, 12; steam tugs, 12; passenger steamers, 4; government steamer, 1. Total number, 147. Steam tonnage, 27,638; sail tonnage, 25,150; total tonnage, 52,788. Arrivals by lake for the season of 1886, 5,282; aggregate tonnage, 2,486,370. Departures by lake for the season of 1886, 5,313; aggregate tonnage, 2,474,555.

DREDGING DONE IN 1886.

Milwaukee river, 73,523.7 cubic yards; Menominee river, 30,593.7 cubic yards; Kinnickinnic river, 17.330.4 cubic yards. There has been delivered by lake in the city during the season of navigation of 1886, 721,187 tons of coal; 1885, 697,052 tons.

It is stated that New York capitalists will build a railway from Duluth to Sault ste Marie, and that the Grand Trunk will then extend its lines to Sault ste Marie.

GENERAL NEWS.

Seventeen iron ship builders have arrived at Levis, Que., from Glasgow to work on Mr. Davis' steamship Titania now in the graving dock.

An increase of $1,000,000 in the capital stock of the North Chicago Rolling Mill Company is announced, making the total $6,000,000.

A sailor who had jumped overboard to rescue a drowning man was asked afterward if he thought he was fit to die. His reply was: "I should not have been made more fit for declining to do my duty."

The Coal Trade Journal reports that the production of anthracite coal for 1886 was 32,426,722 tons, against 31,893,190 in 1885. The demand is now unusually good. A meeting of the sales agents will be held on the 15th to discuss prices.

During 1886 there were 300,918 steerage and 68,742 cabin passengers landed at New York, an increase of 19,748 steerage and 13,582 cabin passengers over 1885. The number of trips made by steamers of all lines increased from 843 in 1885 to 906 in 1886.

Lumber shipments from Bay City were not quite so large last season as in 1885, as the logs ran out before the lake season closed. It is reported that an unusual cut of logs is being made this winter, so that lumber will probably be plenty next season.

Estimates for the year of the production of pig iron are as follows: Charcoal iron, 413,129 gross tons; anthracite iron, 1,830,115; bituminous iron, 3,391,375; total, 5,634,618 gross tons, being a little more than 1,500,000 tons more than last year, an increase of 33 per cent.

The New York Chamber of Commerce has unanimously adopted resolutions approving the Inter-state Commerce Bill except section 4, which prohibits greater charge for a short haul than a long haul, and section 5, which prohibits pooling. The chamber believes that those sections should be stricken out.

The statistics of Montreal harbor for the year just closed show increases over 1885 of $55,000 in revenue and 125,000 tons in capacity of vessels arriving. This year has been the most prosperous for vessel owners for the past six years, and the outlook for 1887 is considered more favorable than ever before this season.

The New York Nautical Gazette says: It is not at all unlikely that the American Ship Windlass Company, of Providence, of which Frank S. Manton is agent, will furnish, in 1887, six of its latest improved steam windlasses to one of the largest shipbuilding establishments in Great Britain, to be placed on steamers to be built by them for American trade. The papers now being drawn in London specifically call for these American windlasses, which are the best in the world. This is a high compliment to the superiority of these machines and a well-deserved tribute to American genius and enterprise.

George E. Adams, of Chicago, introduced a joint resolution to make the United States a party to the suit of the state of Illinois to quie the title to certain portions of the lake front Mr. Randolph Tucker, chairman of the judiciary committee, received a telegram from Judge Trumbull asking for a hearing. Mr. Tucker at once replied by telegraph that he would give him a hearing the last of next week or the first of the following week. Congressman Adams upon being informed of this at once telegraphed the Attorney General of Illinoise, suggesting that he ought also to be present. It is supposed that Judge Trumbull represents the interests of the Illinois Central railroad, and that the company does not wish the United States made a party to the suit.

The Buffalo Express says: It is reported that the State dredge which is engaged on some private work at Squaw Island, near the International Bridge, has uncovered a valuable bed of gravel. It was one of the objects of the work to see if there was not gravel there, and the authorities stipulated on letting the dredge go on the work that if gravel was found the state should have the first right to buy it. There is scarcely any gravel to be had for ballasting the tow path any where between Buffalo and Rochester. Along the Tonawanda creek, where it is so much needed, cinders are used. They are good at first, but they grind to powder after awhile and blow away. Should this gravel bed prove valuable it can be utilized for this purpose by loading scows by means of the dredge, then they can be towed to any point on the canal.

On another page is given details of the illness of John Roach. Since that was written the great shipbuilder died. The cancerous growth had eaten its way into the side of the neck, below the angle of the jaw, involving the large arteries, which became liable to rupture at any moment. Mr. Roach was in great pain, and to give him relief large doses of morphine were injected and he was unconscious most of the time. In the few conscious moments he had spoken to his son Garrett, who was with him all the time. The young man remained with his father during the night. He occupied a seat at the bedside and helped the nurses, who applied soothing poultices and renewed the injections of morphine every time the patient awakened. Only a few intimate friends of the family were admitted to the house, but nobody other than the nurses and the physicians was allowed to see Mr. Roach

The owner of the propeller Myles, sunk in Kingston harbor, is making arrangements for the raising of the boat. The work will be undertaken next month. The contract for the raising of the boat has not yet been let.

THE RIVER AND HARBOR BILL.

WASHINGTON, D. C., January 5.

The house committee on rivers and harbors has completed its river and harbor appropriation bill, and it will be presented to the house before the end of the week. The grand total of the appropriations made by the bill is $7,158,250, while the total of the estimates submitted was $30,281,749.

No appropriation is made in the bill for the improvement of New York harbor, although it is possible that items covering that improvement may be inserted before the bill is finally acted upon by the house. The committee refrained from making any appropriations for that purpose, for the reason that the house committee on commerce expects to secure some action by the house on the commission bill, which contemplates the creation of a commission to supervise the expenditure of money for the improvement of New York harbor upon plans provided by the commission.

The following, among other appropriations amounting to $10,000 and over, are made by the bill:

New York—Harbors, Buffalo, $62,500; Oswego (extended improvement), $20.000. Rivers—Hell Gate (East river), $100,000.

Pennsylvania—Harbors, Erie, $12,000. Rivers—Allegheny, $15,000; Herr's island dam (to complete), $25,000; Monongahela river (to complete), $30,000.

Maryland—Harbors, Baltimore, $25,000.

Virginia—Harbors, Norfolk, $25,000; Norfolk approaches, $30,000.

West Virginia—Rivers, Big Sandy (to complete), $16,000; Great Kanawha, $125,000.

South Carolina—Harbors, Charleston (including Sullivan's island), $150,000.

Georgia—Harbors, Savannah (to complete), $45,000.

Alabama—Harbors, Mobile (to complete), $25,000. Rivers—Alabama river, $10,000; Black Warrior, $50,000.

Mississippi—Pearl river below Jackson (including Bar), $10,000; Pascagouli river and harbor, $16,500.

Louisiana—Red river, $45,000.

Texas—Harbors, Aransas pass and bay up to Rockport and Corpus Christi, $50,000; Brazos Santiago, $25,000; Galveston (entrance to harbor), $200,000; pass Cavallo inlet, $25,000; Sabine pass, $125,000. Rivers—Mouth of Brazos, $25,000; Buffalo bayou, $25,000.

Arkansas—Rivers, Arkansas (removing obstructions), $15,000.

Tennessee—Rivers, Cumberland, above Nashville, $100,000; Tennessee, below Chattanooga, $125,000.

Kentucky—Rivers, Ohio, $150,000; Falls of the Ohio, $75,000; Kentucky, $100,000.

Ohio—Harbors, Ashtabula, $12,500; Cleveland, (existing project), $25,000; mouth of the Muskingum (ice harbor, to complete), $15,000; Toledo (straight channel), $60,000. Rivers—Muskingum, below Zanesville, $50,000.

Indiana—Michigan City (outer harbor), $30,000. Rivers—Wabash, below Vincennes, $25,000

Illinois—Harbors, Chicago (to complete), $60,000; Waukegan, $10,000. Rivers—Calumet (Illinois and Indiana), $12,500; Illinois river, $90,000.

Michigan—Harbors, Grand Haven, $15,000; Grand Marias, refuge, $25,000; Ludington, $30,000; Sand Beach, refuge, $40,000; Portage lake, refuge, $15,000. Rivers—Detroit, $35,000; Hay Lake channel, $100,000; Saginaw river, $25,000, St. Clair Flats, channel, $18,750; St. Mary's river and falls, $100,000; St. Clair river, opposite Port Huron, $15,000.

Wisconsin—Harbors, Milwaukee, refuge, $40,000; Superior, Bay, $10,000. Rivers—Fox, below Montello, $50,000.

Minnesota—Harbors, Duluth, $25,000. Rivers—Red river of the North, $10,000.

California—Harbors, Humboldt harbor and bay, $50,000; Wilmington, $50,000. Rivers—Sacramento and Feather rivers, $10,000; San Joaquin and Stockton and Mormon sloughs, $10,000.

Oregon—Harbors, Coos bay entrance, $25,000; Yaquina bay, $50,000. Rivers—Canal at Cascades, $100,000; mouth of Columbia river, new, $125,000; lower Willamette and Columbia rivers, $125,000; upper Willamette (to complete), $35,000; Coquille river at its mouth, $12,500.

Washington Territory—Rivers, Skagit, Stielaquamish, Nootsack, Snohomish, and Snowqualmee rivers, $10,000.

Montana—Yellowstone river, between Glendive and mouth of the river, $12,500.

Mississippi river—Snag boat on the upper Mississippi, $10,000; river from St. Paul to Des Moines rapids, $125,000; at Des Moines rapids, $15,000; from Des Moines rapids to mouth of Illinois river, $66,000; mouth of Illinois river to mouth of Ohio river, $150,000; Cairo to the head passes, including Red river at and below the head of the Atohafalaya, $1,250,000; survey of Mississippi between head passes and head waters, $125,000; removal of obstructions, $350,000; river at Columbus, Ky., $25,000; at Hickman, Ky., $50,000; at Memphis, $25,000; at Greenville, $50,000; at Vicksburg, $50,000 (no appropriation is made for the expenses and salaries of the Mississippi river commission).

Missouri river—Mouth to Sioux City $250,000; Sioux City to Fort Benton, $35,000; removing obstructions, $11,000; survey and examinations, $30,000.

The committee held a meeting and increased certain items in the bill as follows: Ohio river from $150,000 to $175,000, Herr's Island, Pa., from $25,000 to $28,000. A new item is added to the bill, namely, Marquette harbor, Mich., $10,000. The appropriations for the Arkansas river and New Orleans harbor have been left open, pending Mr. Blanchard's return from Louisiana.

The shareholders of the Richelieu & Ontario navigation company have authorized the issue of $250,000 of new stock at the option of the directors.

THE BUFFALO WHEAT STEALERS.

On Nov. 24 a sensation was created in Buffalo by a discovery which criminally implicated several members of the Merchants' Exchange and a man connected with the Richmond Elevator. The whole thing was a conspiracy by which a systematic stealing of grain has been carried on for several years. A private detective agency was placed in charge of the case some time ago, and after much labor succeeded in collecting evidence which has resulted in the indictment of John A. Campbell, until last week secretary of the new Frontier Elevator, and a member of a grain commission firm; of John Kennedy, whose firm deals in damaged grain; of Andrew Egather, of a forwarding and commission firm, and of Henry P. Emslie, a son of the foreman of the Richmond Elevator, and employed in the elevator. These men have been taken quietly before the court, arraigned, and liberated on bail. The three first, particularly Campbell, are well-known business men, of good connection and good social standing. Campbell recently bought a house and lot on Linwood avenue, for which it is said he paid $30,000. It seems from the stories told that there are three conspiracies, and that Emslie was the only one of the four persons who was identified with all the stealings. With each of the other two he had separate and distinct understandings. The stealings, though the implicated parties say it was not stealing, have been carried on for some three years, and the grain thus taken has been confined to "overruns." Probably 2,000 bushels a year have been thus converted to the use of persons to whom it did not in the slightest degree belong. Elevator men fancy that this practice has not been confined alone to the Richmond, but has extended to every elevator in the city. Emslie has paid over to the management of the elevator some $1,600, the proceeds of his sales. He, it is said, received two-thirds of the profits on what was sold in this way, and the others the balance. There is no telling as yet to what extent grain has thus been abstracted. The only way that it can be learned is by cleaning out the elevator, balancing the books, obtaining the difference between the amount on hand and the amount called for by the books. It is understood that besides the criminal indictments against the persons named civil suits will also be brought. The indicted men urge as a defense that the "overruns" belong to no one, and that the employes of the elavator have just as much right to them as any one. But when a shortage occurs the elevator has to stand it, and it would, therefore, seem only just that "overruns" should be credited to the elevator to offstand shortages.

In regard to this matter the Market Report, of Toledo, says: "The Buffalo Board of Trade weighman has for some years published statements of shortage of grain vessels from Toledo, Chicago and Duluth, seriously affecting the standing of the various elevators shipping from those points. Notably a vessel's shortage from Sarnia where the question of the shortage exceeded 500 bushels was carried to the courts, and where it was held that the vessel could only be made responsible for the amount of grain she actually took on board and delivered at Buffalo. Now it appears from an announcement in the Buffalo papers that a continued system of robbery at the grain elevators at Buffalo has been in progress for a series of years and the shortage of that vessel, and presumably that of all other vessels, was stolen by the employes of the Buffalo elevators, through a systematic collusion between weighmen and some members of the Buffalo Board of Trade. The robbers claim that they were only disposing of the overrun of the elevators, but fail to state to the public that the weighman first stole the amount by dishonest and fraudulent weight taken from the vessels, and shielded themselves by charging that the elevators at Toledo, Chicago and Duluth were the thieves instead of the honest Buffalo weighmen. The startling statement of unearthed robbery at the Buffalo elevators seriously reflects upon the yearly statement of the Buffalo Board of Trade weighman, and in justice to the western elevators he should at once issue an extra circular withdrawing all direct or implied charges against the elevator weights of Chicago, Toledo and Duluth. We hope that the guilty grain thieves of Buffalo may be brought speedily to justice, and in future we shall have honest weights of all grain cargoes at Buffalo."

Mr. Junius S. Smith, the weighmaster of the Buffalo Exchange, has published an open letter in reply to the above from which we extract the following:

"First. No individual cases of shortage or of claims against or settlements with elevators, either at Buffalo or other ports, are ever published by me or with my sanction, and the Sarnia (Port Huron) shortage case named by you was not weighed under my supervision. I had no more to do with it than yourself, although I have not the slightest doubt that the work was correctly done here.

"You may 'but fail to state to the public that the weighman first stole the amount by dishonest and fraudulent weight taken from the vessels,' etc. At the elevator where these things are reported to have occurred—as well as in the other houses—the grain from the vessel can not reach the elevator bins until after passing through the weighing hopper. There is no escape from that fact. Whatever may be done with the grain afterward we know that it is first weighed. You say 'fraudulently.' I have personally and repeatedly tested those scales with 6,000 of standard weights, and do not guess or assume their accuracy, but know it; and the results of our work there show it, as assuming that Toledo and other elevators gave the vessels full weight and that there was no weight or actual loss, still the average shortage there is less than one third of a bushel per 1,000, and it was still less last year. Facts, my friends, are stubborn things.

"Now about Toledo. I have never published any details or claims or adjustments, believing, and I still believe it, that in few, if any, cases there is intentional wrong, and that I can best deal with the principals, who only want what is right; but as you say, as secretary of the Toledo Produce Exchange, have made the charge, I reply that some years ago my records showed a probability of a serious wrong at one of the large elevators at Toledo. It was under the care of a thoroughly honest man; one whose integrity was and is unquestioned, and yet when I went there and made the proper examination and tests, the cause was found and the Toledo elevator settled the shortages. Again the same thing occurred. I again went to Toledo, made the proper tests, and the Toledo elevator again settled the shortages. There was no dishonesty on the part of the Toledo elevator. It was simply a mistake with no intentional wrong, and so far as they could they made reparation That is my reply to your call for an extra circular from me so far as Toledo is concerned. How do you like it?

"For Buffalo and the work of the Merchants' Exchange weighmaster, I have simply to say that when a vessel goes to an elevator here her grain does not come in contact with the storage bins until after it is weighed, and the elevator must and does account for the entire amount received. What they do with it after that I do not know. I am not a detective, and this is no part of my business. You have had copies of my reports from year to year, and for the past seven years the average shortage on grain from craft under my supervision has in no year been as high as a peck per 1,000 bushels. It shows excellent work on the part of the Buffalo elevators. It shows careful, thorough, systematic work on my part and by my deputies; and it frequently shows me where to look for a defect either here or at some western port, but it does not show, and has nothing to do with the disposal of grain after it has been weighed, and a sensible man would at once see that this is entirely a matter with the elevator people and the owner or consignee of the grain."—*Chicago Elevator and Grain Trade.*

A NEW RAILROAD SCHEME.

Bonanza Mackay, the California millionaire, is backing a scheme to connect the railway system of Oregon and Washington territories with the Canadian Pacific railway, and a party of surveyors have been sent out from Portland, Oregon, to survey a line for a railroad along the Columbia river from the C. P. R. into that city. Advices from Skagit, a town just across the American border, state that W. B. Moore, of Stanwood, an engineer of the C. P. R. was in that town recently looking for the best point at which the Columbian river could be crossed. He says the Seattle and Canadian Pacific railroad is a thing concluded, accepted, finished, and that work will be begun on January 1, 1887. One thousand men will be put at work grading and levelling. The road will begin at Fort Hope, on the Canadian Pacific, thence running south across the Noosack valley, pass near the city of Sterling, thence south in connection with a stream emptying directly into Stillagaumish river—known as Pillchuck—thence south, crossing the Snohomish river; from this point crossing a level plain of timber land. The soil is alluvial, and the new railroad will open one of the grandest sections of fertile land lying west of the Cascades. Much of the land is unoccupied government land, offering to the settler much advantage if it is possible to keep away that modern vulture—the speculator. The highest altitude of the road will be 192 feet above the sea level. Work will be started on the Canadian side, and it will be much before May that work will commence at this end. The surveys were all made and accepted some time ago, and Mr. Moore will meet at Omaha the syndicate of the new railroad to decide about the final arrangements on the 28th inst. The United States laws grant right of way to any railroad or canal through any individual property for referred remuneration, and it is on that ground only that the Canadian Pacific will be run to Portland—and that, too, much in advance of the Northern Pacific.

A NEW MARINE MOTOR.

The trial of a new marine motor came off recently at Asnieres, with the most astonishing result. A small boat had been duly fitted with the motor, invented by two ambitious Parisian engineers, Messrs. Buisson and Ciorein. This new discovery claimed to quadruple the ordinary power of steam. At 3 o'clock in the afternoon hundreds of invited guests assembled at Asnieres to see the boat maneuver against the steam. Messrs. Buisson and Ciorein jumped into the boat, accompanied by a young machinist sixteen years of age named Jules Moigret. One of the inventors gave the order, "Full speed ahead." The young mechanician pressed a little black ivory knob, and the boat shot ahead like a bird taking wing. Scarcely had it gone twice its own length, however, before a fearful explosion occurred. The spectators saw the boat burst into thousands of splinters that fell upon their heads like a hail storm. A few seconds later a man was seen swimming ashore. This was M. Ciorein, who, although he lost an eye by the explosion, still had strength to keep himself afloat until picked up by a boat that happened to be passing by. M. Buisson had sunk to the bottom and was dragged out by a dredging net. He was stil alive, but his bones were broken, and his body resembled a horrible wound. He died in the arms of Count D. Herisson, the well known soldier and author, who, with M. Edmond Blanc, lately in America, were among the spectators. Young Jules Moigret completely disappeared. The Seine was dragged, but no trace was found. A boatman who witnessed the explosion, said: "I saw young Moigret cut into two pieces by a steel plate belonging to the machine."

A TON OF COAL.

There is more in a heap of coal than most persons are aware of. Besides gas, a ton of gas coal will yield 1,500 pounds of coke, 20 gallons of ammonia water, and 140 pounds of coal tar. Destructive distillation of the coal tar gives 69.6 pounds of pitch, 17 pounds of creosote, 14 pounds of heavy oils, 9.5 pounds naphtha yellow, 6.3 pounds of naphthaline, 4.75 pounds of naphthol, 2.25 pounds of alizarine, 2.4 pounds of solvent naphtha, 1.5 pounds of phenol, 1.2 pounds of aurine, 1.1 pounds of aniline, 0.77 pound of toludine, 0.46 pound of anthracine, and 0.9 pound of toluene.

ILLNESS OF JOHN ROACH.

It is known that for some weeks John Roach, the great ship builder, has been confined to his residence in gradually failing health. According to his own desire that his friends should not be needlessly alarmed, and apprehensive of the effect upon him of learning the real nature of the disease from which he has been suffering, his family and physicians have been reticent in regard to his condition. Mr. Roach, however, realized fully the impossibility of recovery and the reason for concealment no longer exists. In view of this fact a representative of Mr. Roach's family made the following authoritative statement of the invalid's condition: Mr. Roach is beyond the reach of medical help, save in the alleviations of his sufferings, which have long been incessant and intense. His disease is epithelioma, and its development has been very similar to the case of General Grant, the location, however, being the roof of the mouth instead of the throat. All efforts to arrest its progress have failed, and only his powerful constitution has sustained him so long. He has never seen a well day since the entire nervous prostration consequent upon his assignment eighteen months ago. From that crushing blow he could not rally, and the cancer began to develop last January. In March an operation was performed in the hope that the disease might be eradicated. In the summer the trouble returned, and it became evident to the physicians that there was no hope. Mr. Roach is now failing gradually, his agony relieved only by anodynes.

A great deal of complaint has been made by foreign buyers that cargoes sold at Duluth by sample did not "pan out" well as to quality, and there is good reason for the complaints. Samples of No. 1 hard wheat from Duluth have been sent back here from Liverpool which were no better than No. 3. Duluth shippers were not to blame for this state of things, but the mixing was done at Buffalo or New York while being transferred. Some of the large elevator companies of Minneapolis have worked up a trade among millers in eastern New York and abroad by giving a tangible guarantee that the wheat sold should be equal to samples sent. This has not been a difficult thing to do, as the superior quality of the hard wheat of the Northwest is now almost as well known among the millers of England and Scotland as in our own state, and they are anxious to get it.

THE CENTURY.

For 1886--7.

The Century is an illustrated monthly magazine, having a regular circulation of about two hundred thousand copies, often reaching and sometimes exceeding two hundred and twenty-five thousand. Chief among its many attractions for the coming year is a serial which has been in active preparation for sixteen years. It is a history of our own country in its most critical time, as set forth in

THE LIFE OF LINCOLN.

BY HIS CONFIDENTIAL SECRETARIES, JOHN G. NICOLAY AND COL. JOHN HAY.

This great work, begun with the sanction of President Lincoln, and continued under the authority of his son, the Hon. Robert T. Lincoln, is the only full and authoritative record of the life of Abraham Lincoln. Its authors were friends of Lincoln before his presidency; they were most intimately associated with him as private secretaries throughout his term of office, and to them were transferred upon Lincoln's death all his private papers. Here will be told the inside history of the civil war and of President Lincoln's administration—important details of which have hitherto remained unrevealed that they might first appear in this authentic history. By reason of the publication of this work,

THE WAR SERIES,

which has been followed with unflagging interest by a great audience, will occupy less space during the coming year. Gettysburg will be described by Gen. Hunt (Chief of the Union Artillery), Gen. Longstreet, Gen. E. M Law and others; Chickamauga, by Gen. D. H. Hill; Sherman's March to the Sea, by Generals Howard and Slocum. Generals Q. A Gillmore, W. F. Smith, John Gibbon, Horace Porter, and John S. Mosby will describe special battles and incidents. Stories of naval engagements, prison life, etc., etc., will appear.

NOVELS AND STORIES.

"The Hundredth Man," a novel by Frank R. Stockton, author of "The Lady, or the Tiger?" etc., began in November. Two novelettes by George W. Cable, stories by Mary Hallock Foote, "Uncle Remus," Julian Hawthorne, Edward Eggleston, and other prominent American authors will be printed during the year.

SPECIAL FEATURES,

(with illustrations) include a series of articles on affairs in Russia and Siberia by George Kennan, author of "Tent Life in Siberia," who has just returned from a most eventful visit to Siberian prisons; papers on the Food Question, with reference to its bearing on the Labor Problem; English Cathedrals; Dr. Eggleston's Religious Life in the American Colonies; Men and Women of Queen Anne's Reign, by Mrs. Oliphant; Clairvoyance, Spiritualism, Astrology, etc., by the Rev. J. M. Buckley, D. D., editor of the Christian Advocate; astronomical papers; articles throwing light on Bible history, etc.

PRICES. A FREE COPY.

Subscription price, $4.00 a year, 35 cents a number. Dealers, postmasters, and the publishers take subscriptions. Send for our beautifully illustrated 24-page catalogue (free), containing full prospectus, etc., including a special offer by which new readers can get back numbers to the beginning of the War Series at a very low price. A specimen copy (back number) will be sent on request. Mention this paper.

Can you afford to be without The Century?

THE CENTURY CO. New York.

GEORGE E. HALLADAY.

Attorney and Proctor in Admiralty.

Marine Business Promptly Attended To.

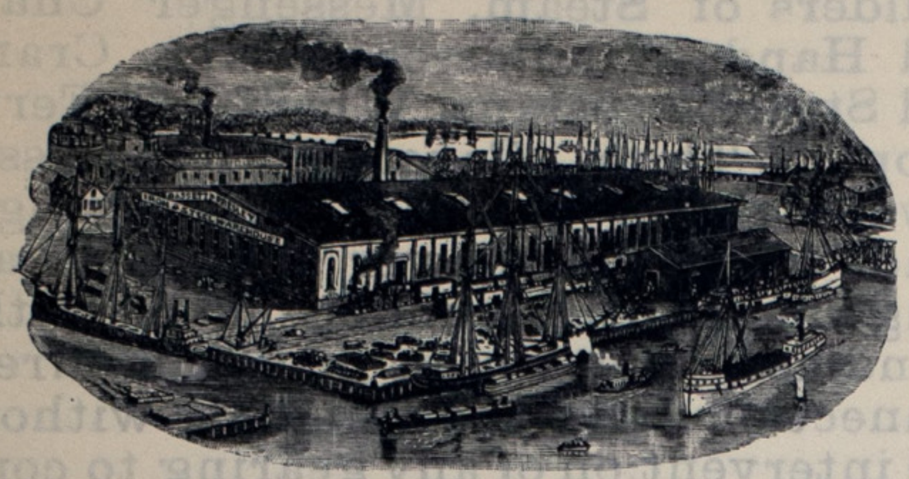
OFFICE 21 BUHL BLOCK, DETROIT, MICHIGAN.

IRA B. BASSETT. GEORGE PRESLEY, Jr.

BASSETT & PRESLEY,

[Successors to W. H. McCurdy & Co.]

Office and Warehouse, cor. Elm & Hemlock Streets, Cleveland, O.



WHOLESALE DEALERS IN

BAR, BOILER, HOOP, ANGLE AND SHEET IRON.

Nails, Railroad and Boat Spikes, Boiler, Tank and Cooper Rivets, Swedes Iron, Boiler Tubes, Nail Rods, Etc., Etc., Etc.

We Represent in this Market the Following Well-known Manufacturers:

Andrews Bros. & Co. .....Youngstown, O.
BAR IRON AND POLISHED SHAFTING.

Reading Iron Works.....Philadelphia, Pa.
BOILER TUBES.

Central Iron Works.....Harrisburg, Pa.
BOILER PLATES.

Lindsay & McCutcheon,.....Pittsburg, Pa,
HOOP, BAND & STAR HORSESHOE IRON.

George W. Johnson,.....Newcastle, Pa.
TANK SHEET IRON.

Dilworth, Porter & Co., Limited..Pittsburg, Pa.
RAILROAD AND BOAT SPIKE.

Hoopes & Townsend,.....Philadelphia, Pa.
BOILER AND TANK RIVETS.

Sanderson Bros. Steel Co,.....Syracuse, N. Y.
CAST STEEL.

Joseph Corns & Sons .....Massillon, O.
CROWN STAY BOLT IRON.

Pencoyd Iron Works,.....Philadelphia, Pa.
ANGLE IRON.

A Complete Stock of all above Goods in Our Warehouse.

SAMUEL F. HODGE & CO.,

MANUFACTURERS OF

MARINE,

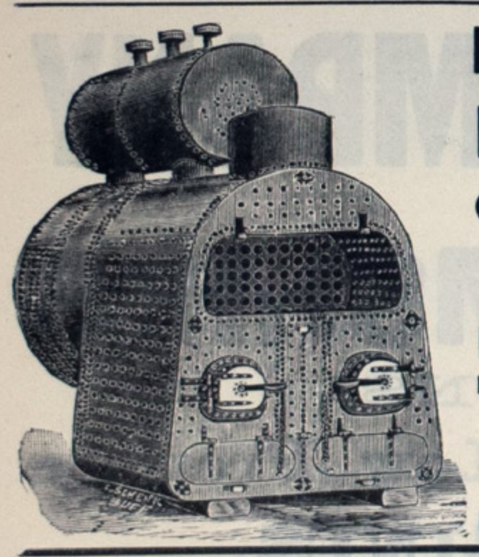
Stationary & Portable Engines,

MINING MACHINERY AND

PROPELLER WHEELS,

Riverside Iron Works, 314 to 326 Atwater Street,

DETROIT, MICH.



EAGLE BOILER WORKS,

M. RITER, Prop'r,

Cor. Indiana & Mary St.,

BUFFALO, N. Y.

MANUFACTURER OF

High and Low Pressure

Marine, Stationary, Portable, Locomotive and Upright Boilers; also, Salt Pans, Smoke Pipes and Heavy and Light Plate Iron Work of all Descriptions.

REPAIRS PROMPTLY ATTENDED TO.

O. & P. COAL CO. & THOS. AXWORTHY.

FUEL DEPARTMENT.

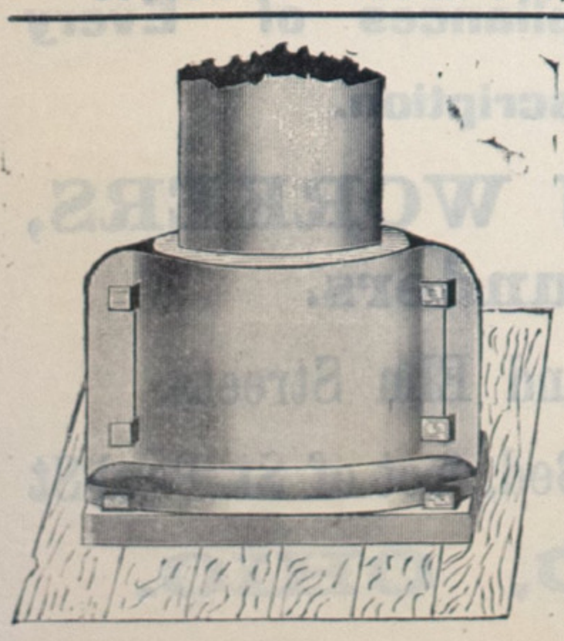
PRESLEY, ARTHUR & CO., AG'TS.

Steamboats, Tugs, etc, Coaled Day and Night.

DEALERS IN LACKAWANNA ANTHRACITE COAL.

Docks: Ft. West River St., Whisky Island, C. P. R'y. Slip, Government Pier

OFFICE 130 RIVER-ST., CLEVELAND, OHIO.



C. A. RICHARDSON'S

Rudder Holden

AND

SUPPORT.

A Practical and Invaluable Invention,

Patented May, 1884

Whole or Half of Right for Sale.

C. A. RICHARDSON, Alpena, Mich.

ST. MARY'S, OHIO. MONTPELIER, OHIO. } OAR MILLS. NEPTUNE ANCHOR WORKS.

DEGRAUW, AYMAR & CO.,

MANUFACTURERS AND IMPORTERS OF

CORDAGE, OAKUM, WIRE ROPE,

Chains, Anchors, Oars, Blocks, Buntings, Flags,

Cotton and Flax Ducks, Russia Bolt Rope.

MARINE HARDWARE AND SHIP-CHANDLERS' GOODS GENERALLY.

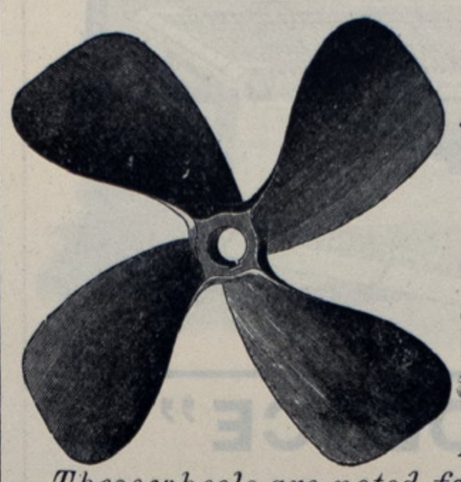
Nos. 34 and 35 South Street, NEW YORK,

H. G. TROUT,

KING IRON WORKS,

BUFFALO, N. Y.,

MANUFACTURER OF



Triple Expansion Marine Engines,

Three Cylinder and Fore and Aft and Steeple Compound Marine Engines,

High and Low Pressure Engines,

Propeller and Tug Wheels.

These wheels are noted for their extra speed and towing power, or a proportionate saving of coal.

PRICES QUOTED ON APPLICATION.

JUST PUBLISHED. *NOW READY*

LEWIS' MARINE MANUAL,

A SUMMARY OF THE LAW

RELATING TO OR IN ANY WAY CONNECTED WITH THE

Shipping and Mercantile Interests of the Lakes

And the Sea-coast Waters of Canada and the United States,

By EDWARD N. LEWIS, Proctor in Maritime Courts.

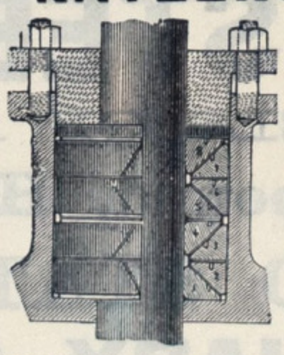
OVER 500 PAGES - - - PRICE $2-50

Address MARINE RECORD OFFICE, Cleveland, O.

SEND FOR MARINE LAWBOOK

PRICE ONE DOLLAR

KATZENSTEIN'S



SELF-ACTING METAL PACKING

FOR PISTON RODS, VALVE STEMS, Etc.

Adopted and in use by the principal Iron Works and Steamship Companies within the last eight years in this and Foreign countries. Also flexible tubular metallic packing for slip-joints on steam pipes and for hydraulic pressure. For full particulars and references address

L. KATZENSTEIN & CO

357 West St., between Leroy and Clarkson-st, N. Y.

CAPT. THOS. WILSON, who uses this packing on his Steamers, and THE MARINE RECORD are Agents for Cleveland and the Lakes.

ROBERT E. HILLS,

57 & 59 North Wells St., Chicago, Ill.
Telephone 3321.

STEAM FITTING AND HEATING,

Wrought Iron Pipe & Fittings.

ENGINEER'S SUPPLIES.

General Jobbing Work Done Promptly.

Also, Proprietor of North Side Brass Works.

WM. H. RADCLIFFE,

Shipbuilder and General Repairing.

OLD RIVER BED, Ft. OF TAYLOR St.,

CLEVELAND, O.

DAVID BARNHISEL, Agent.

DOMESTIC & STEAM COAL

Cleveland. Ohio

VESSEL PROPERTY FOR SALE.

STEAMBARGE FOR SALE.

This is one of the finest steambarges on the lakes, and was built in 1884. She is in good condition in every respect, serviceable, easy to load and unload, and a great favorite. She can not be duplicated for the same money. Her dimensions are 131 feet keel, 143 feet over all, 23.4 feet beam, 8.4 feet depth of hold, and is classed A1½ by Inland Lloyds. She carries two masts. Her carrying capacity is 400 to 425 tons or 14,000 bushels of wheat, or about 240,000 feet of lumber on a dratt of 9 feet 9 inches. Her engine is high pressure 18x20 and her boiler 6½x12 feet of 7-16 Otis steel. Speed 10 miles loaded or 11½ light.

Address MARINE RECORD, Cleveland, Ohio.

FOR SALE.

STEAM PASSENGER TUG TEMPEST.

Steel hull 60 feet over all, 10 feet beam, 6 feet hold. Engines fore and aft compound, 8 and 14x12. Otis steel boiler, return flue, 110 pressure. Complete passenger outfit for forty-three passengers. Speed 12 to 16 miles. H. F. LOOMIS, 151 Arlington-st, Cleveland.

A1 TUG FOR SALE.

This tug is 52 feet over all, 13 feet 3 inches beam, and 6 feet 6 inches depth of hold. Engine, 13x14; steel boiler 4 feet 6 inches diameter by 9 feet long. The hull was built by Geo. H. Notter, Buffalo, and is an excellent model and well built. The tug is nearly new, having done only five month's work since she came out new last summer. She has a poop deck and finished cabin fore and aft, and classes A1. Price, $4,300. Address MARINE RECORD OFFICE.

FOR SALE,

A POWERFUL RIVER AND HARBOR TUG.

Length 87 feet, breadth 17 feet, depth 9 feet, draws 9 feet. New tonnage 40, old 81. Engine 22x24. She is allowed 90 pounds of steam. Has new main valve, new throttle valve, new eccentrics, two new tow posts, four new timber heads, one new metallic life boat and new wheel, ironed all around for work in ice. Cabin, pilot house and engine room remodeled. Can carry sixty (60) tons fuel, has forty life preservers, water-tight bulkheads, and is allowed to carry passengers. She rates A2, valued in Lloyd's at $40,000, and is warranted in first-class shape. Address MARINE RECORD OFFICE, Cleveland, Ohio.

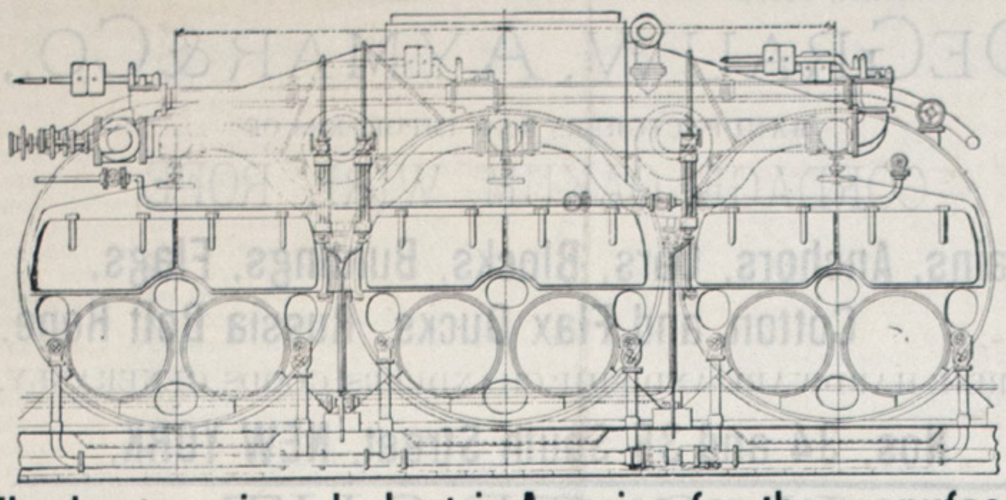
WINDLASS FOR SALE.

The undersigned have a Hadfield Patent windlass for a one and three-eighths inch bar chain for sale cheap.

JOHNSON & BATES,
227 Erie St., Racine, Wis.

GOLD fields are scarce, but those who write to Stinson & Co., Portland, Maine, will receive free, full information about work which they can do, and live at home, that will pay them from $5 to $25 per day. Some have earned over $50 in a day. Either sex, young or old. Capital not required. You are started free. Those who start at once are absolutely sure of snug little fortunes. All is new.

LAKE ERIE BOILER WORKS.



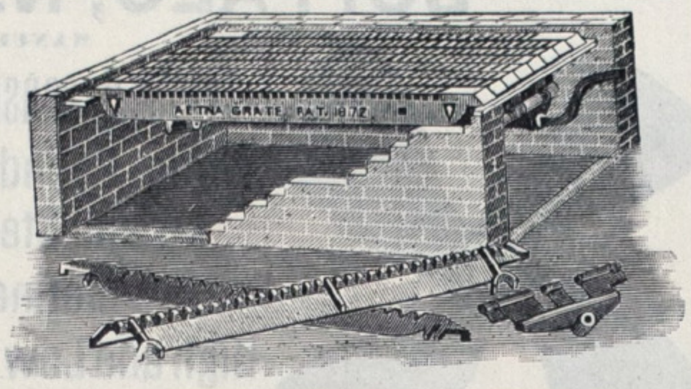
The best equipped plant in America for the manufacture of Modern Marine Boilers

BUFFALO, NEW YORK

THE ÆTNA GRATE.

G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.



Globe Iron Works, Manufac's.,
Office and Foundry, corner of Elm and Spruce-sts., CLEVELAND, O.

"THE PROVIDENCE"

WINDLASSES, CAPSTANS, ETC.,

IN CANADA.

THE WINDSOR FOUNDRY Co

Have made arrangements with the American Ship Windlass Co. to build their Celebrated Machinery, with latest improvements for use on Ship-board for Canada.

FOR PRICES, PLANS AND ALL OTHER IAFORMATION APPLY TO

THE WINDSOR FOUNDRY CO.,
WINDSOR, HANTS COUNTY. NOVA SCOTIA.

Established in 1857.

AMERICAN SHIP WINDLASS CO.,

Builders of Steam, Messenger Chain and Hand Windlasses, Power, Crank and Steam Capstans, Wharf and Ferry Drops. Their Capstan Windlasses have a Power Capstan with a single head which has power and speed arrangement entirely independent of the Windlass, and which makes a direct connection with the Windlass without the intervention of any gearing to complicate it and increase the friction.

In all their styles of Steam Windlasses they make a direct connection between the engines and the windlass without counter shafts or additional gearing. This saves friction and liability to break down. and conduces to durability and ease in operating. They also have a counterbalance for the engines and an automatic lubricator for worm and worm gear. and the engines are placed together in the most accessible position. The above improvements and others too numerous to mention, but which are familiar to Masters, Owners and Builders, are covered by Patents owned exclusively by this Company. For plans and information,

Address,

FRANK S. MANTON, Agent. P. O. Box 53, Providence, R. I.

H. M. HANNA, PRESIDENT. JOHN F. PANKHURST, VICE PRESIDENT AND GENERAL MANAGER. LUTHER ALLEN, SECRETARY AND TREASURER

THE GLOBE IRON WORKS COMPANY

BUILDERS OF

IRON AND STEEL STEAMSHIPS

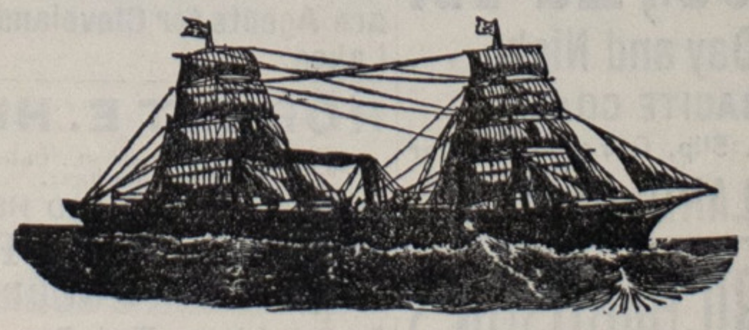
AND VESSELS OF ALL DIMENSIONS,

Triple Expansion, Compound, High Pressure and Low Pressure

MARINE AND STATIONARY ENGINES,

MARINE, STATIONARY & PORTABLE BOILERS.

Blast Furnace and Rolling Mill Machinery, Hoisting and Pumping Engines, Portable Hoisting Engines.



Steam Pumps, Steam and Hand Windlasses, Winches, and Marine Appliances of Every Description.

GENERAL SHEET AND PLATE IRON WORKERS,

Machinists, Boiler-Makers and Founders.

Builders of

Iron Steamships "Onoko," "Wm. Chisholm," "J. H. Devereux," Etc.
Steel Steamship "Spokane."
Passenger Steamer "Darius Cole."
Steam Yacht "Twilight."
Iron Tugs "International" and "Record."

OFFICE & WORKS, Spruce and Elm Streets.
IRON SHIP YARD, Old River Bed, foot of St. Paul St

CLEVELAND, OHIO.